

# Welcome!

This is the sixth in a series of teaching aids designed **by** teachers **for** teachers at Level 3. The worksheets are designed to support the delivery of the National Curriculum in a variety of teaching and learning styles. They are not designed to take the pedagogy away from the teacher. The worksheets are centred around the shown level, but spiral from the level below to the level above. Consult the National Numeracy Strategy for definitive National Curriculum levels. They can be used by parents with the support of the on-line help facility at [www.10ticks.co.uk](http://www.10ticks.co.uk).

## Contents and Teacher Notes.

- Pages 3/4.      **Rounding to the Nearest 10/100.**  
Use of a number line to round numbers (0-1000) to the nearest 10 and 100.
- Pages 5/6.      **Sequences.**  
Use of 1-100 squares to investigate sequences going forwards and backwards in steps of 2, 3, 4 and 5.
- Pages 7-10.     **Solitaire.**  
A traditional game of solitaire played with counters. When pupils can't move any more counters, pupils calculate a score by looking under the counters left on the board and totalling them. There are four starting positions for counters, traditional, diamond, arrow and double arrow. On the latter there are add and take away numbers for calculating the end score.
- Pages 11/12.    **Stay or Go (Add/Take Away).**  
A 'Snakes and Ladders' style of board game. Move forward the number rolled on the die, calculate the sum on the square, if calculated correctly stay, if not go back 6 places. Each board game concentrates on one aspect of number work.
- Pages 13/14.    **Stay or Go (Times/Divide).**  
As above.
- Pages 15/16.    **Addition and Subtraction Cross-Numbers 1/2.**  
Calculate the sum and fill in the cross-number.
- Page 17.        **Boxes.**  
Traditional boxes game, except when you complete a box you score the number of points inside the box.
- Page 18.        **Cross Out.**  
Multiplication game based on rolling 2 dice. Use polyhedral dice to obtain higher multiplication tables.
- Pages 19/20.    **Centimetres (cm).**  
Use of a ruler to measure and draw lines to the nearest cm and 0.5 cm. Change between the units cm and mm.
- Pages 21/22.    **Metres and Centimetres/Kilometres and Metres.**  
Changing between units (cm, m, km). Choosing the type of measuring equipment and units to use. Converting a given number of cms into metres and a given number of metres into kms.
- Pages 23/24.    **Litres and Millilitres.**  
Reading from container scales with and without ml labels. Changing between units (litres, mls). Making a given number of mls into litres. You will need to use the "Capacity Worksheet" later on in this pack.
- Page 25/26.     **Measuring Weight.**  
Reading from scales with different divisions. Changing between units (kgs, gs). Making a given number of grams into kgs. Estimating weight to be more/less than a kilogram.

- Pages 27/28. **Polygons**  
Recognising the name of 2D shapes. Recognising the difference between equilateral and isosceles triangles. Finding quadrilaterals..
- Pages 29/30. **Regular Polygons/Capacity Worksheet.**  
Identifying regular polygons and their properties.  
Capacity worksheet- empty containers with different divisions and labels for use with “Litres and Millilitres” sheet earlier in the pack.
- Pages 31/32. **Solids.**  
Identifying 3D shapes and familiarity with their names. Identifying the number of vertices, edges and faces of 3D shapes.
- Pages 33/34. **Lines of Symmetry.**  
Identify lines of symmetry of different shapes, letters and signs. Understand that some shapes have more than 1 line and some have no line of symmetry. It is an interesting exercise to see how many different ways you can write the letters of the alphabet so they have different numbers of line symmetry. X for instance could have 2 or 4. Q could have 0 or 1 (draw the tail pointing to the centre of the circle). This could be an extension activity.
- Pages 35/36. **Reflection.**  
Exercises to draw the reflected shape in 1 or 2 lines of reflection.
- Pages 37/38. **Right Angles.**  
Identify right angles and say whether the angles are more/less than a right angle.
- Pages 39/40. **Compass Points/Tally Charts.**  
Introduction of the 4 main compass points. Turning through a fraction of a complete turn, and turning through right angles.  
Tally charts - converting raw data into a tally chart.
- Pages 41/42. **Pictograms.**  
Reading from pictograms and drawing pictograms using symbols that represent more than 1.
- Bonus Pages.  
Pages 43/44. **Bar Charts.**  
Reading from bar charts and drawing bar charts using axes with different intervals (1, 2, 5, 10).
- Pages 45/46. **Venn Diagrams.**  
Putting information on Venn Diagrams.
- Pages 47/48. **Position and Direction**  
Positioning objects using grid references.

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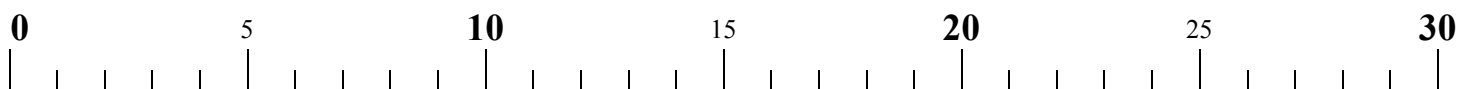
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## Rounding to the Nearest 10



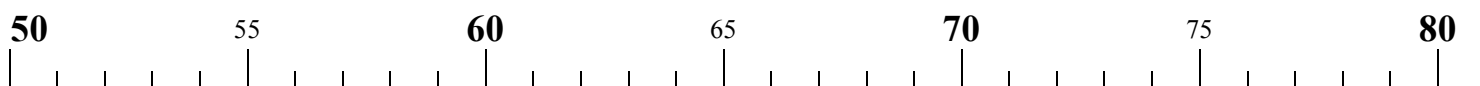
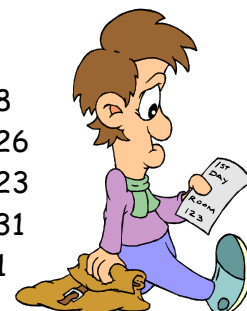
### SECTION A

Use the number line above to decide whether to round up or round down to the nearest 10.

If it is exactly half way between on 5, 15 or 25 then you round up to the next ten.

All of your answers should be 0, 10, 20 or 30 for this section.

- |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|
| 1. 11  | 2. 7   | 3. 19  | 4. 13  | 5. 17  | 6. 8   |
| 7. 12  | 8. 28  | 9. 21  | 10. 9  | 11. 5  | 12. 26 |
| 13. 6  | 14. 16 | 15. 27 | 16. 29 | 17. 15 | 18. 23 |
| 19. 2  | 20. 18 | 21. 22 | 22. 4  | 23. 25 | 24. 31 |
| 25. 32 | 26. 3  | 27. 14 | 28. 24 | 29. 33 | 30. 1  |



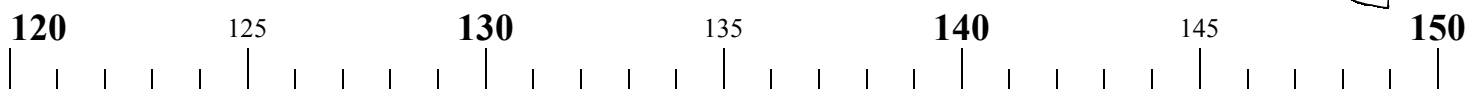
### SECTION B

Use the number line above to decide whether to round up or round down to the nearest 10.

If it is exactly half way between on 55, 65 or 75 then you round up to the next ten.

All of your answers should be 50, 60, 70 or 80 for this section.

- |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|
| 1. 61  | 2. 57  | 3. 69  | 4. 63  | 5. 67  | 6. 58  |
| 7. 62  | 8. 78  | 9. 71  | 10. 59 | 11. 55 | 12. 76 |
| 13. 56 | 14. 66 | 15. 77 | 16. 79 | 17. 65 | 18. 73 |
| 19. 52 | 20. 68 | 21. 72 | 22. 54 | 23. 75 | 24. 81 |
| 25. 82 | 26. 53 | 27. 64 | 28. 74 | 29. 83 | 30. 51 |



### SECTION C

Use the number line above to decide whether to round up or round down to the nearest 10.

If it is exactly half way between on 125, 135 or 145 then you round up to the next ten.

All of your answers should be 120, 130, 140 or 150 for this section.

- |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|
| 1. 141  | 2. 137  | 3. 149  | 4. 143  | 5. 147  | 6. 138  |
| 7. 142  | 8. 148  | 9. 151  | 10. 139 | 11. 135 | 12. 166 |
| 13. 136 | 14. 146 | 15. 127 | 16. 131 | 17. 145 | 18. 153 |
| 19. 132 | 20. 133 | 21. 152 | 22. 133 | 23. 125 | 24. 121 |
| 25. 122 | 26. 129 | 27. 144 | 28. 154 | 29. 123 | 30. 131 |

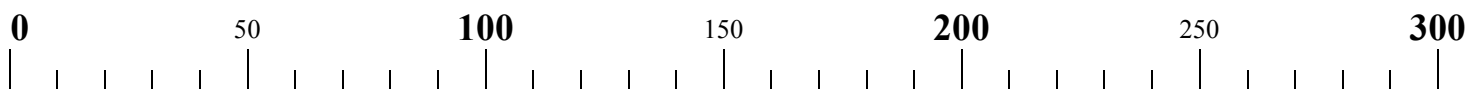
### SECTION D

Write each number to the nearest 10:

- |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|
| 1. 14   | 2. 21   | 3. 19   | 4. 23   | 5. 12   | 6. 11   |
| 7. 18   | 8. 25   | 9. 27   | 10. 16  | 11. 32  | 12. 7   |
| 13. 37  | 14. 35  | 15. 38  | 16. 48  | 17. 42  | 18. 51  |
| 19. 68  | 20. 74  | 21. 81  | 22. 96  | 23. 104 | 24. 121 |
| 25. 239 | 26. 343 | 27. 352 | 28. 461 | 29. 548 | 30. 595 |
| 31. 677 | 32. 626 | 33. 683 | 34. 748 | 35. 785 | 36. 845 |
| 37. 878 | 38. 818 | 39. 972 | 40. 951 | 41. 879 | 42. 856 |
| 43. 934 | 44. 943 | 45. 979 | 46. 901 | 47. 916 | 48. 929 |



## Rounding to the Nearest 100

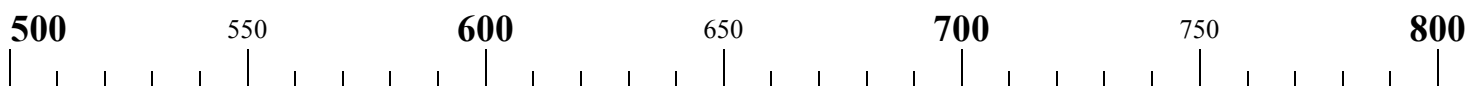


### SECTION A

Use the number line above to decide whether to round up or round down to the nearest 100. If it is exactly half way between on 50, 150 or 250 then you round up to the next hundred. All of your answers should be 0, 100, 200 or 300 for this section.



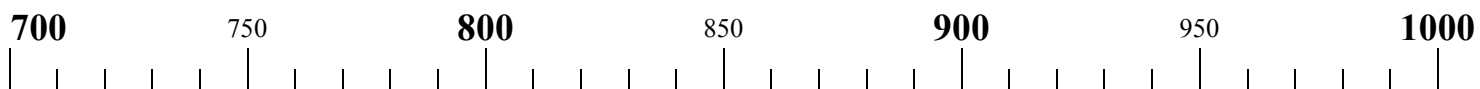
- |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|
| 1. 110  | 2. 70   | 3. 190  | 4. 130  | 5. 170  | 6. 80   |
| 7. 120  | 8. 280  | 9. 210  | 10. 90  | 11. 50  | 12. 260 |
| 13. 60  | 14. 160 | 15. 270 | 16. 290 | 17. 150 | 18. 230 |
| 19. 140 | 20. 180 | 21. 221 | 22. 148 | 23. 180 | 24. 251 |
| 25. 221 | 26. 148 | 27. 259 | 28. 316 | 29. 329 | 30. 20  |



### SECTION B

Use the number line above to decide whether to round up or round down to the nearest 100. If it is exactly half way between on 550, 650 or 750 then you round up to the next hundred. All of your answers should be 500, 600, 700 or 800 for this section.

- |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|
| 1. 610  | 2. 570  | 3. 690  | 4. 630  | 5. 670  | 6. 580  |
| 7. 620  | 8. 780  | 9. 710  | 10. 590 | 11. 550 | 12. 660 |
| 13. 560 | 14. 640 | 15. 770 | 16. 790 | 17. 650 | 18. 730 |
| 19. 520 | 20. 680 | 21. 727 | 22. 542 | 23. 755 | 24. 618 |
| 25. 621 | 26. 539 | 27. 648 | 28. 741 | 29. 738 | 30. 513 |



### SECTION C

Use the number line above to decide whether to round up or round down to the nearest 100. If it is exactly half way between on 750, 850 or 950 then you round up to the next hundred. All of your answers should be 700, 800, 900 or 1000 for this section.



- |         |         |         |         |         |         |
|---------|---------|---------|---------|---------|---------|
| 1. 841  | 2. 737  | 3. 849  | 4. 843  | 5. 847  | 6. 738  |
| 7. 842  | 8. 938  | 9. 951  | 10. 739 | 11. 735 | 12. 966 |
| 13. 731 | 14. 846 | 15. 957 | 16. 959 | 17. 845 | 18. 953 |
| 19. 732 | 20. 848 | 21. 952 | 22. 734 | 23. 955 | 24. 961 |
| 25. 962 | 26. 831 | 27. 736 | 28. 844 | 29. 949 | 30. 963 |

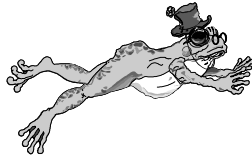
### SECTION D

Write each number to the nearest 100:

- |          |          |          |          |          |
|----------|----------|----------|----------|----------|
| 1. 270   | 2. 489   | 3. 594   | 4. 280   | 5. 586   |
| 6. 626   | 7. 120   | 8. 322   | 9. 527   | 10. 310  |
| 11. 413  | 12. 791  | 13. 240  | 14. 141  | 15. 548  |
| 16. 680  | 17. 874  | 18. 487  | 19. 590  | 20. 693  |
| 21. 104  | 22. 210  | 23. 308  | 24. 634  | 25. 835  |
| 26. 930  | 27. 545  | 28. 755  | 29. 850  | 30. 895  |
| 31. 254  | 32. 268  | 33. 241  | 34. 1224 | 35. 1389 |
| 36. 1548 | 37. 1878 | 38. 2589 | 39. 3128 | 40. 4715 |
| 41. 2573 | 42. 2136 | 43. 3247 | 44. 3268 | 45. 4176 |
| 46. 5294 | 47. 6278 | 48. 7112 | 49. 8374 | 50. 8657 |



# Sequences



## SECTION A

You need 1-100 squares.

1. **Start at 1** and shade the numbers in **steps of 2**: 1, 3, 5, 7, .....
2. On another 1-100 square, **start at 2** and shade the numbers in **steps of 2**: 2, 4, 6, 8, .....
3. What would happen if you started at 3? or 4?



## SECTION B

Count forwards or backwards in **steps of 2** to find the next five numbers in each sequence:

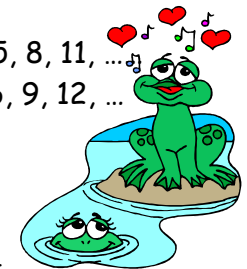
- |                             |                             |                             |
|-----------------------------|-----------------------------|-----------------------------|
| 1. 1, 3, 5, 7, 9, ...       | 2. 0, 2, 4, 6, 8, ...       | 3. 20, 18, 16, 14, 12, ...  |
| 4. 12, 14, 16, 18, 20, ...  | 5. 23, 21, 19, 17, 15, ...  | 6. 18, 20, 22, 24, 26, ...  |
| 7. 27, 25, 23, 21, 19, ...  | 8. 24, 26, 28, 30, 32, ...  | 9. 23, 25, 27, 29, 31, ...  |
| 10. 31, 33, 35, 37, 39, ... | 11. 32, 34, 36, 38, 40, ... | 12. 30, 28, 26, 24, 22, ... |
| 13. 49, 51, 53, 55, 57, ... | 14. 44, 42, 40, 38, 36, ... | 15. 44, 46, 48, 50, 52, ... |
| 16. 56, 58, 60, 62, 64, ... | 17. 51, 49, 47, 45, 43, ... | 18. 59, 57, 55, 53, 51, ... |
| 19. 68, 66, 64, 62, 60, ... | 20. 61, 63, 65, 67, 69, ... | 21. 62, 64, 66, 68, 70, ... |
| 22. 77, 79, 81, 83, 85, ... | 23. 79, 77, 75, 73, 71, ... | 24. 74, 76, 78, 80, 82, ... |
| 25. 81, 83, 85, 87, 89, ... | 26. 80, 82, 84, 86, 88, ... | 27. 88, 86, 84, 82, 80, ... |
| 28. 98, 96, 94, 92, 90, ... | 29. 95, 93, 91, 89, 87, ... | 30. 91, 93, 95, 97, 99, ... |



## SECTION C

You need 1-100 squares.

1. **Start at 1** and shade the numbers in **steps of 3**: 1, 4, 7, 10, .....
2. On another 1-100 square, **start at 2** and shade the numbers in **steps of 3**: 2, 5, 8, 11, ...
3. On another 1-100 square, **start at 3** and shade the numbers in **steps of 3**: 3, 6, 9, 12, ...
4. What would happen if you started at 4? or 5? or 6?



## SECTION D

Count forwards or backwards in **steps of 3** to find the next five numbers in each sequence:

- |                             |                             |                               |
|-----------------------------|-----------------------------|-------------------------------|
| 1. 1, 4, 7, 10, 13, ...     | 2. 0, 3, 6, 9, 12, ...      | 3. 30, 27, 24, 21, 18, ...    |
| 4. 2, 5, 8, 11, 14, ...     | 5. 38, 35, 32, 29, 26, ...  | 6. 15, 18, 21, 24, 27, ...    |
| 7. 37, 34, 31, 28, 25, ...  | 8. 11, 14, 17, 20, 23, ...  | 9. 19, 22, 25, 28, 31, ...    |
| 10. 31, 34, 37, 40, 43, ... | 11. 40, 37, 34, 31, 28, ... | 12. 30, 33, 36, 39, 42, ...   |
| 13. 49, 52, 55, 58, 61, ... | 14. 44, 41, 38, 35, 32, ... | 15. 44, 47, 50, 53, 56, ...   |
| 16. 56, 59, 62, 65, 68, ... | 17. 51, 48, 45, 42, 39, ... | 18. 59, 56, 53, 50, 47, ...   |
| 19. 68, 65, 62, 59, 56, ... | 20. 61, 64, 67, 70, 73, ... | 21. 62, 65, 68, 71, 74, ...   |
| 22. 77, 80, 83, 86, 89, ... | 23. 79, 76, 73, 70, 67, ... | 24. 74, 77, 80, 83, 86, ...   |
| 25. 81, 84, 87, 90, 93, ... | 26. 80, 83, 86, 89, 93, ... | 27. 88, 85, 82, 79, 76, ...   |
| 28. 98, 95, 92, 89, 86, ... | 29. 95, 92, 89, 86, 83, ... | 30. 91, 94, 97, 100, 103, ... |



## SECTION E

Describe each pattern using words like: forwards, backwards, steps of

- |                             |                             |                             |
|-----------------------------|-----------------------------|-----------------------------|
| 1. 1, 3, 5, 7, 9, ...       | 2. 0, 3, 6, 9, 12, ...      | 3. 20, 18, 16, 14, 12, ...  |
| 4. 2, 4, 6, 8, 10, ...      | 5. 30, 27, 24, 21, 18, ...  | 6. 1, 4, 7, 10, 13, ...     |
| 7. 10, 13, 16, 19, 21, ...  | 8. 15, 13, 11, 9, 7, ...    | 9. 25, 22, 19, 16, 13, ...  |
| 10. 2, 5, 8, 11, 14, ...    | 11. 40, 42, 44, 46, 48, ... | 12. 30, 33, 36, 39, 42, ... |
| 13. 50, 48, 46, 44, 42, ... | 14. 40, 37, 34, 31, 28, ... | 15. 45, 43, 41, 39, 37, ... |

## SECTION F

You need 1-00 squares.

1. **Start at 1** and shade the numbers in **steps of 4**: 1, 5, 9, 13, .....
2. On another 1-100 square, **start at 2** and shade the numbers in **steps of 4**: 2, 6, 10, 14, .....
3. On another 1-100 square, **start at 3** and shade the numbers in **steps of 4**: 3, 7, 11, 15, ...
4. On another 1-100 square, **start at 4** and shade the numbers in **steps of 4**: 4, 8, 12, 16, ...
5. What would happen if you started at 5? or 6? or 7? or 8?



## SECTION G

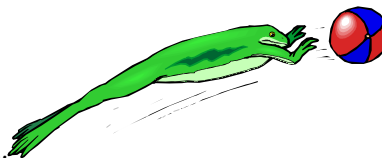
Count forwards or backwards in **steps of 4** to find the next five numbers in each sequence:

- |                             |                             |                               |
|-----------------------------|-----------------------------|-------------------------------|
| 1. 1, 5, 9, 13, 17, ...     | 2. 0, 4, 8, 12, 16, ...     | 3. 40, 36, 32, 28, 24, ...    |
| 4. 2, 6, 10, 14, 18, ...    | 5. 45, 41, 37, 33, 29, ...  | 6. 3, 7, 11, 15, 19, ...      |
| 7. 48, 44, 40, 36, 32, ...  | 8. 13, 17, 21, 25, 29, ...  | 9. 23, 27, 31, 35, 39, ...    |
| 10. 31, 35, 39, 43, 47, ... | 11. 37, 41, 45, 49, 53, ... | 12. 53, 49, 45, 41, 37, ...   |
| 13. 49, 53, 57, 61, 65, ... | 14. 46, 42, 38, 34, 30, ... | 15. 46, 50, 54, 58, 62, ...   |
| 16. 56, 60, 64, 68, 72, ... | 17. 51, 47, 43, 39, 35, ... | 18. 60, 56, 52, 48, 44, ...   |
| 19. 67, 63, 59, 55, 51, ... | 20. 61, 65, 69, 73, 77, ... | 21. 62, 66, 70, 74, 78, ...   |
| 22. 77, 81, 85, 89, 93, ... | 23. 79, 83, 87, 91, 95, ... | 24. 74, 70, 66, 62, 58, ...   |
| 25. 81, 85, 89, 93, 97, ... | 26. 80, 84, 88, 92, 96, ... | 27. 88, 84, 80, 76, 72, ...   |
| 28. 98, 94, 90, 86, 82, ... | 29. 95, 91, 87, 83, 79, ... | 30. 91, 95, 99, 103, 107, ... |

## SECTION H

You need 1-100 squares.

1. **Start at 1** and shade the numbers in **steps of 5**: 1, 6, 11, 16, .....
2. On another 1-100 square, **start at 2** and shade the numbers in **steps of 5**: 2, 7, 12, 17, .....
3. On another 1-100 square, **start at 3** and shade the numbers in **steps of 5**: 3, 8, 13, 18, ...
4. On another 1-100 square, **start at 4** and shade the numbers in **steps of 5**: 4, 9, 14, 19, ...
5. On another 1-100 square, **start at 5** and shade the numbers in **steps of 5**: 5, 10, 15, 20, ...
6. What would happen if you started at 6? or 7? or 8? or 9? or 10?



## SECTION I

Count forwards or backwards in **steps of 5**, to find the next five numbers in each sequence:

- |                              |                             |                                |
|------------------------------|-----------------------------|--------------------------------|
| 1. 1, 6, 11, 16, 21, ...     | 2. 0, 5, 10, 15, 20, ...    | 3. 50, 45, 40, 35, 30, ...     |
| 4. 2, 7, 12, 17, 22, ...     | 5. 53, 48, 43, 38, 33, ...  | 6. 4, 9, 14, 19, 24, ...       |
| 7. 54, 49, 44, 39, 34, ...   | 8. 8, 13, 18, 23, 28, ...   | 9. 26, 31, 36, 41, 46, ...     |
| 10. 32, 37, 42, 47, 52, ...  | 11. 52, 47, 42, 37, 32, ... | 12. 30, 35, 40, 45, 50, ...    |
| 13. 49, 54, 59, 64, 69, ...  | 14. 64, 59, 54, 49, 44, ... | 15. 43, 48, 53, 58, 63, ...    |
| 16. 63, 68, 73, 78, 83, ...  | 17. 51, 56, 61, 66, 71, ... | 18. 62, 57, 52, 47, 42, ...    |
| 19. 65, 60, 55, 50, 45, ...  | 20. 60, 65, 70, 75, 80, ... | 21. 64, 69, 74, 79, 84, ...    |
| 22. 77, 82, 87, 92, 97, ...  | 23. 79, 74, 69, 64, 59, ... | 24. 70, 75, 80, 85, 90, ...    |
| 25. 81, 86, 91, 96, 101, ... | 26. 83, 78, 73, 68, 63, ... | 27. 86, 81, 76, 71, 66, ...    |
| 28. 98, 93, 88, 83, 78, ...  | 29. 95, 90, 85, 80, 75, ... | 30. 94, 99, 104, 109, 114, ... |

## SECTION J

Describe each pattern using words like: forwards, backwards, steps of

- |                             |                             |                                 |
|-----------------------------|-----------------------------|---------------------------------|
| 1. 1, 5, 9, 13, 17, ...     | 2. 0, 5, 10, 15, 20, ...    | 3. 20, 16, 12, 8, 4, ...        |
| 4. 2, 6, 10, 14, 18, ...    | 5. 31, 26, 21, 16, 11, ...  | 6. 4, 9, 14, 19, 24, ...        |
| 7. 3, 7, 11, 15, 19, ...    | 8. 23, 19, 15, 11, 7, ...   | 9. 25, 20, 15, 10, 5, ...       |
| 10. 2, 7, 12, 17, 22, ...   | 11. 43, 48, 53, 58, 63, ... | 12. 30, 34, 38, 42, 46, ...     |
| 13. 54, 49, 44, 39, 34, ... | 14. 40, 36, 32, 28, 24, ... | 15. 99, 103, 107, 111, 115, ... |





# Solitaire



Put a counter on every circle except the black centre circle.

The aim is to remove as many counters as possible.

Remove counters by jumping over counters with other counters.

The counter that is jumped over is taken off.

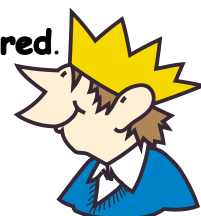
Jumps are only allowed up and down or across. No diagonal jumps allowed.

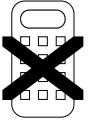
The game is over when no more jumps are possible.

		Add 6	Add 5	Add 7		
		Add 4	Add 3	Add 4		
Add 7	Add 4	Add 2	Add 1	Add 2	Add 4	Add 6
Add 4	Add 3	Add 1	●	Add 1	Add 3	Add 4
Add 6	Add 4	Add 2	Add 1	Add 2	Add 4	Add 7
		Add 4	Add 3	Add 4		
		Add 7	Add 5	Add 6		

Work out your score by adding all the scores in the circles left **uncovered**.  
The bigger the score the better.

A perfect game would leave one counter on the black circle.

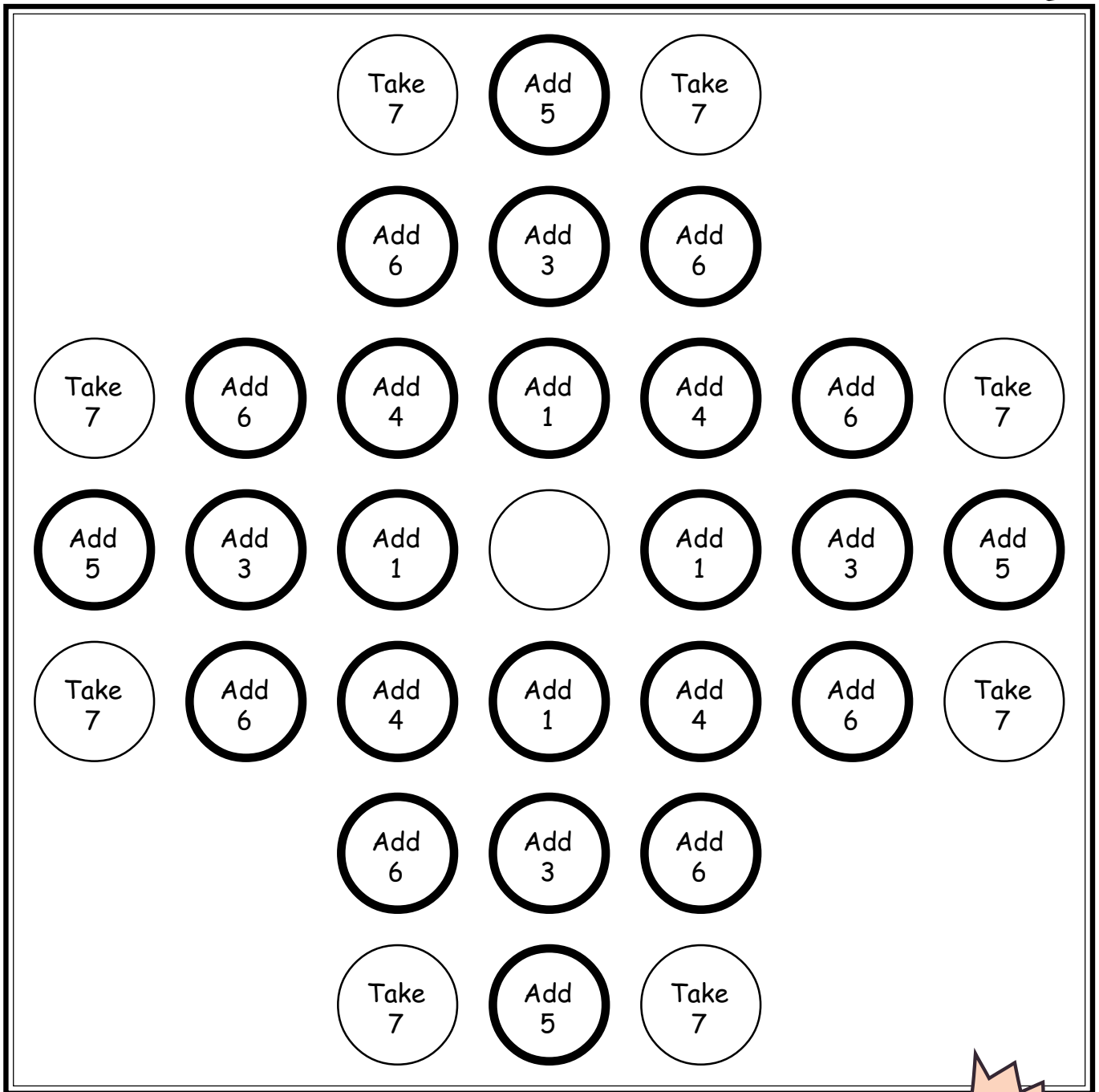




## Solitaire (Diamond)

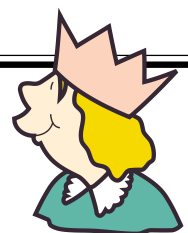


Put a counter on every circle with a thick edge.  
When all the counters are on the board they will make a diamond shape.  
The aim is to remove as many counters as possible.  
Remove counters by jumping over counters with other counters.  
The counter that is jumped over is taken off.  
Jumps are only allowed up and down or across. No diagonal jumps allowed.  
The game is over when no more jumps are possible.

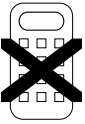


To work out your score:

- 1) Add all the 'Add' scores in the circles left **uncovered**, then
- 2) where a counter **covers** a 'Take' score, take it away.







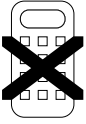
## Solitaire (Arrow)

Put a counter on every circle with a thick edge.  
When all the counters are on the board they will make an arrow shape.  
The aim is to remove as many counters as possible.  
Remove counters by jumping over counters with other counters.  
The counter that is jumped over is taken off.  
Jumps are only allowed up and down or across. No diagonal jumps allowed.  
The game is over when no more jumps are possible.

	Take 7	Add 6	Take 7			
	Add 5	Add 4	Add 5			
Take 5	Add 7	Add 4	Add 3	Add 4	Add 7	Take 5
Take 1	Take 3	Take 3		Take 3	Take 3	Take 1
Take 1	Take 2	Take 5	Add 3	Take 5	Take 2	Take 1
	Add 5	Add 4	Add 5			
	Add 7	Add 6	Add 7			

To work out your score:

- 1) Add all the 'Add' scores in the circles left **uncovered**, then
- 2) where a counter **covers** a 'Take' score, take it away.



## Solitaire (Double Arrow)

Put a counter on every circle with a thick edge.  
When all the counters are on the board they will make a double arrow shape.  
The aim is to remove as many counters as possible.  
Remove counters by jumping over counters with other counters.  
The counter that is jumped over is taken off.  
Jumps are only allowed up and down or across. No diagonal jumps allowed.  
The game is over when no more jumps are possible.

		Take 5	Add 7	Take 5		
		Add 6	Add 5	Add 6		
Take 5	Add 6	Add 5	Add 4	Add 5	Add 6	Take 5
Take 2	Take 8	Add 3		Add 3	Take 8	Take 2
Take 5	Add 6	Add 5	Add 4	Add 5	Add 6	Take 5
		Add 6	Add 5	Add 6		
		Take 5	Add 7	Take 5		

To work out your score:

- 1) Add all the 'Add' scores in the circles left **uncovered**, then
- 2) where a counter **covers** a 'Take' score, take it away.

# Stay or Go (Add)

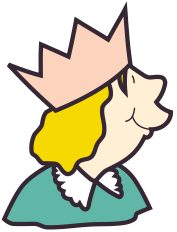


A game for 2 or more players. Each player places a counter on start.  
Decide who is to go first and roll the die. Move that many squares.  
Work out the answer **in your head** and then check it on a calculator.  
If you are right you stay, if you are wrong then **go back 6 places**.  
The first player to reach the end wins.

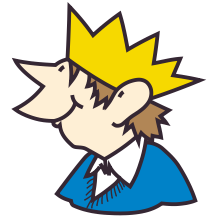


<b>START</b>	4 + 7	11 + 5	9 + 3	10 + 12	14 + 10	11 + 8	23 + 10	11 + 9	7 + 13	20 + 40
										13 + 13
41 + 32	23 + 30	7 + 14	19 + 10	45 + 5	22 + 20	16 + 13	6 + 12	17 + 12	15 + 10	21 + 21
4 + 7										
13 + 15	24 + 24	36 + 40	65 + 5	44 + 44	35 + 35	36 + 7	7 + 11	23 + 23	25 + 31	45 + 5
										33 + 9
66 + 10	24 + 12	9 + 6	53 + 6	48 + 11	7 + 15	47 + 14	54 + 20	48 + 9	57 + 21	63 + 12
62 + 8										
13 + 4	63 + 30	35 + 5	21 + 15	72 + 26	36 + 36	19 + 7	78 + 5	47 + 40	25 + 5	49 + 39
										17 + 42
17 + 17	32 + 50	83 + 15	84 + 8	38 + 19	87 + 10	9 + 8	33 + 52	16 + 29	45 + 45	31 + 31
19 + 63										
60 + 17	35 + 15	15 + 7	47 + 35	7 + 8	46 + 46	23 + 19	32 + 30	55 + 15	9 + 14	26 + 35
										87 + 8
<b>END</b>	93 + 16	87 + 8	57 + 57	75 + 15	67 + 21	95 + 7	9 + 8	73 + 12	52 + 52	36 + 43
47 + 65										





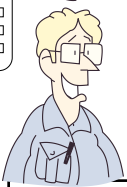
# Stay or Go (Take Away)



A game for 2 or more players. Each player places a counter on start.  
 Decide who is to go first and roll the die. Move that many squares.  
 Work out the answer **in your head** and then check it on a calculator.  
 If you are right you stay, if you are wrong then **go back 6 places**.  
 The first player to reach the end wins.

<b>START</b>	10 - 4	9 - 5	12 - 5	7 - 4	21 - 10	20 - 7	14 - 4	19 - 7	17 - 5	32 - 10	
										15 - 8	
41 - 20	23 - 7	15 - 4	19 - 11	18 - 9	20 - 13	12 - 7	30 - 6	21 - 19	14 - 9	32 - 12	
13 - 8											
11 - 3	24 - 19	36 - 27	65 - 13	19 - 11	35 - 15	55 - 29	17 - 8	15 - 12	52 - 13	45 - 30	
										33 - 19	
66 - 21	63 - 31	20 - 16	94 - 30	65 - 31	13 - 7	60 - 25	50 - 24	48 - 29	57 - 20	18 - 14	
94 - 32											
23 - 7	20 - 15	35 - 15	76 - 36	13 - 4	42 - 18	47 - 22	20 - 12	87 - 73	97 - 55	49 - 13	
										36 - 25	
70 - 24	95 - 33	83 - 21	84 - 7	20 - 13	93 - 71	27 - 9	57 - 34	68 - 50	91 - 15	20 - 11	
83 - 11											
60 - 18	63 - 40	52 - 33	74 - 23	20 - 13	47 - 38	23 - 15	32 - 18	97 - 51	73 - 65	83 - 41	
										64 - 49	
<b>END</b>	77 - 39	93 - 88	88 - 59	57 - 17	75 - 38	68 - 59	95 - 48	96 - 87	73 - 49	52 - 18	75 - 57





## Stay or Go (Times)

A game for 2 or more players. Each player places a counter on start. Decide who is to go first and roll the die. Move that many squares. Work out the answer **in your head** and then check it on a calculator. If you are right you stay, if you are wrong then **go back 6 places**. The first player to reach the end wins.



<b>START</b>	$3 \times 1$	$4 \times 2$	$1 \times 2$	$3 \times 10$	$4 \times 5$	$2 \times 6$	$5 \times 1$	$3 \times 3$	$0 \times 2$	$4 \times 4$	
											Double 8
$2 \times 7$	$3 \times 4$	$10 \times 2$	$2 \times 2$	$5 \times 6$	Double 7	$5 \times 0$	$4 \times 1$	$10 \times 1$	$5 \times 2$	$2 \times 5$	
$5 \times 3$											
Double 13	$2 \times 3$	Double 15	$10 \times 11$	$10 \times 3$	$3 \times 2$	$0 \times 3$	$4 \times 10$	$2 \times 4$	$5 \times 10$	$3 \times 6$	
											Double 30
$4 \times 11$	Double 20	$3 \times 5$	$10 \times 5$	$4 \times 6$	Double 25	Double 18	$5 \times 4$	$10 \times 4$	$4 \times 3$	$10 \times 10$	
$5 \times 5$											
Double 40	$4 \times 0$	Double 19	$10 \times 6$	$2 \times 8$	$6 \times 3$	Double 35	$5 \times 7$	$6 \times 4$	$3 \times 7$	$5 \times 11$	
											$4 \times 8$
$5 \times 8$	Double 400	$6 \times 5$	$3 \times 8$	$7 \times 3$	$7 \times 4$	$3 \times 11$	Double 250	$10 \times 12$	$2 \times 9$	$10 \times 7$	
$8 \times 10$											
$10 \times 9$	$2 \times 10$	Double 350	$5 \times 12$	$4 \times 7$	$8 \times 3$	Double 45	$5 \times 9$	$3 \times 9$	$8 \times 4$	$4 \times 12$	
											Double 85
<b>END</b>	Double 450	$9 \times 5$	Double 150	$4 \times 9$	$7 \times 5$	$9 \times 3$	Double 75	$10 \times 8$	$3 \times 12$	$9 \times 4$	





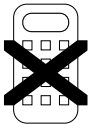
## Stay or Go (Divide)

A game for 2 or more players. Each player places a counter on start. Decide who is to go first and roll the die. Move that many squares. Work out the answer **in your head** and then check it on a calculator. If you are right you stay, if you are wrong then **go back 6 places**. The first player to reach the end wins.



<b>START</b>	$15 \div 3$	$2 \div 2$	$3 \div 1$	$30 \div 10$	$21 \div 3$	$6 \div 2$	Halve 14	$2 \div 1$	$9 \div 3$	$20 \div 10$	
										$6 \div 3$	
$10 \div 5$	$20 \div 4$	$40 \div 10$	$4 \div 2$	Halve 30	$12 \div 3$	$16 \div 4$	Halve 26	$8 \div 2$	$4 \div 4$	$12 \div 2$	
$60 \div 10$											
$24 \div 2$	$25 \div 5$	$8 \div 4$	Halve 38	$3 \div 3$	$20 \div 2$	$35 \div 5$	$32 \div 4$	$12 \div 6$	Halve 50	$30 \div 3$	
										$22 \div 2$	
$50 \div 5$	$40 \div 4$	$10 \div 2$	$15 \div 5$	$90 \div 9$	Halve 80	$70 \div 10$	$14 \div 2$	$30 \div 5$	$21 \div 7$	$28 \div 4$	
$90 \div 10$											
$24 \div 3$	$80 \div 8$	Halve 90	$20 \div 5$	$14 \div 7$	$36 \div 4$	Halve 34	$24 \div 4$	$12 \div 4$	$45 \div 5$	$18 \div 2$	
										$100 \div 10$	
$24 \div 12$	Halve 500	$18 \div 3$	$28 \div 7$	$60 \div 6$	$24 \div 8$	Halve 120	$18 \div 9$	$16 \div 2$	$32 \div 8$	$22 \div 11$	
Halve 130											
$40 \div 5$	$45 \div 9$	$16 \div 8$	Halve 300	$27 \div 3$	$24 \div 6$	$50 \div 10$	Halve 100	$18 \div 6$	$70 \div 10$	Halve 800	
										$80 \div 10$	
<b>END</b>	$36 \div 3$	$120 \div 10$	Halve 900	$36 \div 9$	$110 \div 10$	Halve 190	$30 \div 6$	Halve 170	$40 \div 8$	$27 \div 9$	$35 \div 7$



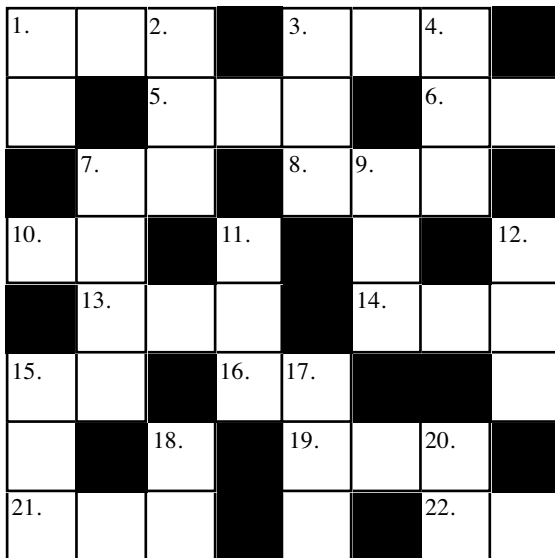


# Addition and Subtraction Cross-Numbers 1

Work out the answers either in your head or by using a pen and paper method. Put these answers in the cross-number.



A).



### Across.

- |                  |                |                |
|------------------|----------------|----------------|
| 1). $90 + 12$    | 3). $200 - 4$  | 5). $390 + 20$ |
| 6). $40 - 12$    | 7). $40 - 30$  | 8). $840 + 16$ |
| 10). $57 - 27$   | 13). $64 + 52$ | 14). $73 + 73$ |
| 15). $37 + 43$   | 16). $60 - 15$ | 19). $704 - 7$ |
| 21). $121 + 472$ | 22). $65 - 29$ |                |

### Down.

- |                  |                 |                  |
|------------------|-----------------|------------------|
| 1). $7 + 8$      | 2). $120 + 120$ | 3). $54 + 54$    |
| 4). $612 + 14$   | 7). $505 + 505$ | 9). $215 + 346$  |
| 11). $270 - 6$   | 12). $400 - 37$ | 15). $400 + 425$ |
| 17). $697 - 132$ | 18). $82 - 19$  | 20). $97 - 24$   |

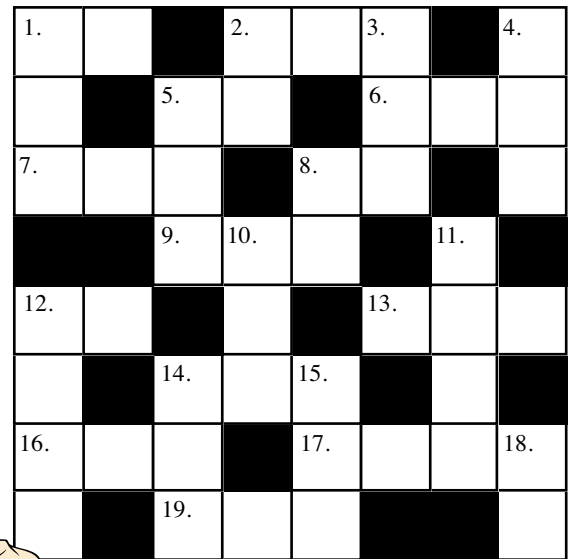
### Across.

- |                  |                 |                  |
|------------------|-----------------|------------------|
| 1). $23 - 7$     | 2). $320 + 401$ | 5). $23 + 19$    |
| 6). $75 + 57$    | 7). $300 + 500$ | 8). $83 - 12$    |
| 9). $410 + 30$   | 12). $30 - 15$  | 13). $130 - 28$  |
| 14). $140 + 445$ | 16). $304 - 6$  | 17). $450 + 551$ |
| 19). $216 + 324$ |                 |                  |

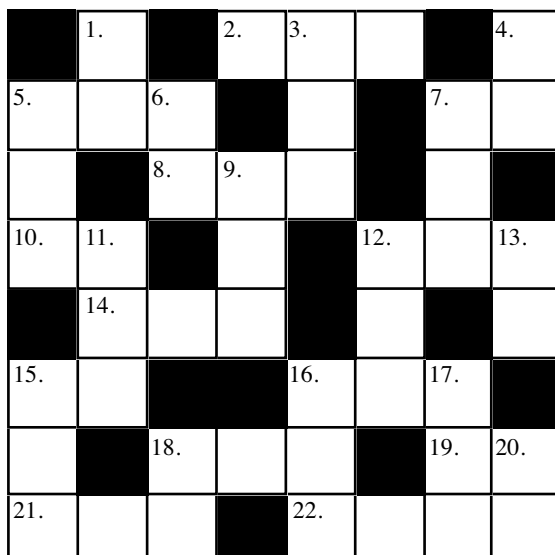
### Down.

- |                  |                  |                 |
|------------------|------------------|-----------------|
| 1). $150 - 12$   | 2). $100 - 28$   | 3). $99 + 12$   |
| 4). $132 + 94$   | 5). $202 + 202$  | 8). $23 + 47$   |
| 10). $510 - 12$  | 11). $500 + 500$ | 12). $980 + 40$ |
| 14). $797 - 212$ | 15). $600 - 90$  | 18). $20 - 7$   |

B).



C).

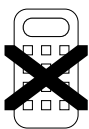


### Across.

- |                  |                 |                 |
|------------------|-----------------|-----------------|
| 2). $65 + 65$    | 5). $131 + 226$ | 7). $33 - 6$    |
| 8). $150 - 14$   | 10). $85 - 12$  | 12). $410 + 94$ |
| 14). $410 + 112$ | 15). $46 - 16$  | 16). $51 + 51$  |
| 18). $295 + 20$  | 19). $51 - 4$   | 21). $1000 - 7$ |
| 22). $400 + 600$ |                 |                 |

### Down.

- |                  |                  |                  |
|------------------|------------------|------------------|
| 1). $9 + 6$      | 3). $370 - 4$    | 4). $44 - 7$     |
| 5). $280 + 47$   | 6). $27 + 44$    | 7). $800 - 600$  |
| 9). $472 - 130$  | 11). $450 - 100$ | 12). $700 - 200$ |
| 13). $54 - 12$   | 15). $140 + 249$ | 16). $160 - 9$   |
| 17). $120 + 120$ | 18). $12 + 21$   | 20). $87 - 17$   |

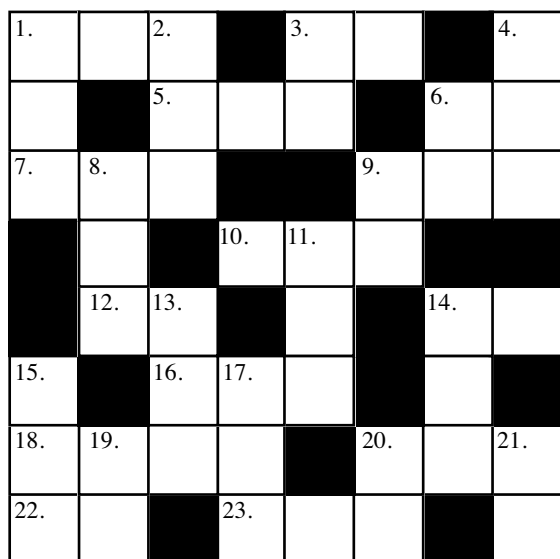


# Addition and Subtraction Cross-Numbers 2

Work out the answers either in your head or by using a pen and paper method.  
Put these answers in the cross-number.



A).



### Across.

- |                  |                  |                  |
|------------------|------------------|------------------|
| 1). $93 + 38$    | 3). $50 - 11$    | 5). $450 + 450$  |
| 6). $9 + 8$      | 7). $310 - 30$   | 9). $200 - 60$   |
| 10). $65 + 50$   | 12). $51 - 19$   | 14). $12 + 17$   |
| 16). $211 + 213$ | 18). $600 + 600$ | 20). $849 - 114$ |
| 22). $12 + 13$   | 23). $750 - 6$   |                  |

### Down.

- |                |                 |                  |
|----------------|-----------------|------------------|
| 1). $57 + 65$  | 2). $245 - 55$  | 3). $17 + 13$    |
| 4). $223 + 47$ | 6). $21 - 7$    | 8). $465 + 418$  |
| 9). $22 - 7$   | 11). $148 - 14$ | 13). $120 + 120$ |
| 14). $235 + 8$ | 15). $321 - 9$  | 17). $249 - 42$  |
| 19). $32 - 7$  | 20). $100 - 26$ | 21). $28 + 26$   |

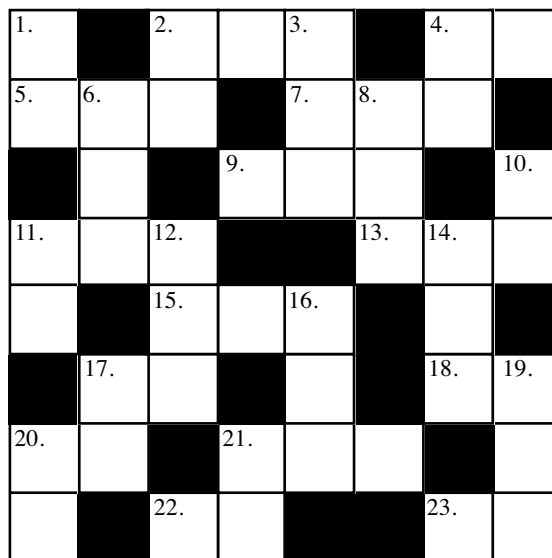
### Across.

- |                  |                |
|------------------|----------------|
| 2). $260 - 15$   | 4). $37 + 22$  |
| 7). $190 + 53$   | 9). $51 + 51$  |
| 13). $1000 - 60$ | 15). $632 - 9$ |
| 18). $17 + 25$   | 20). $20 - 8$  |
| 22). $40 - 11$   | 23). $17 + 18$ |

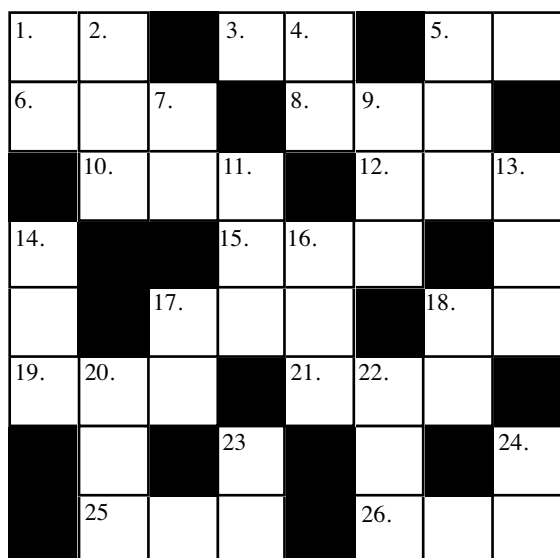
### Down.

- |                  |                 |                  |
|------------------|-----------------|------------------|
| 1). $8 + 6$      | 2). $35 - 8$    | 3). $600 - 80$   |
| 4). $21 + 32$    | 6). $122 + 250$ | 8). $450 - 21$   |
| 10). $23 + 37$   | 11). $4 + 15$   | 12). $120 + 340$ |
| 14). $212 + 212$ | 16). $400 - 80$ | 17). $42 - 10$   |
| 19). $221 - 6$   | 20). $3 + 14$   | 21). $80 - 31$   |

B).



C).



### Across.

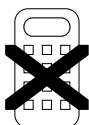
- |                  |                 |                 |
|------------------|-----------------|-----------------|
| 1). $6 + 17$     | 3). $30 - 11$   | 5). $16 + 4$    |
| 6). $480 - 8$    | 8). $340 + 16$  | 10). $920 - 14$ |
| 12). $513 + 441$ | 15). $400 - 28$ | 17). $92 + 92$  |
| 18). $23 + 63$   | 19). $142 - 17$ | 21). $637 - 12$ |
| 25). $597 - 235$ | 26). $42 + 77$  |                 |

### Down.

- |                  |                  |                  |
|------------------|------------------|------------------|
| 1). $9 + 15$     | 2). $385 - 6$    | 4). $41 + 52$    |
| 5). $114 + 151$  | 7). $13 + 7$     | 9). $610 - 18$   |
| 11). $700 - 62$  | 13). $124 + 352$ | 14). $978 - 237$ |
| 16). $359 + 387$ | 17). $4 + 11$    | 18). $97 - 12$   |
| 20). $109 + 154$ | 22). $39 + 162$  | 23). $14 + 18$   |
| 24). $120 - 41$  |                  |                  |







# BOXES

Each player takes it in turn to draw a horizontal or vertical line between two dots next to each other.

The player who completes a box wins the number of points inside the box.

After completing a box it is your go again.

Keep a running total!

**The highest total wins.**



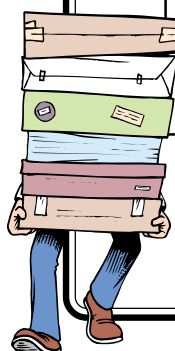
•	•	•	•	•	•
4	2	1	0	5	•
•	•	•	•	•	•
5	1	4	3	4	•
•	•	•	•	•	•
1	3	1	2	2	•
•	•	•	•	•	•
0	4	2	6	1	•
•	•	•	•	•	•
4	2	4	1	4	•
•	•	•	•	•	•

•	•	•	•	•	•
3	7	2	4	4	•
•	•	•	•	•	•
5	2	3	7	3	•
•	•	•	•	•	•
4	2	1	4	1	•
•	•	•	•	•	•
4	3	5	4	6	•
•	•	•	•	•	•
6	3	4	2	4	•
•	•	•	•	•	•



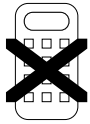
•	•	•	•	•	•
9	4	5	8	4	•
•	•	•	•	•	•
3	7	1	4	2	•
•	•	•	•	•	•
8	4	7	6	9	•
•	•	•	•	•	•
4	9	3	4	1	•
•	•	•	•	•	•
6	4	1	5	8	•
•	•	•	•	•	•

•	•	•	•	•	•
2	12	6	7	3	•
•	•	•	•	•	•
4	3	2	9	5	•
•	•	•	•	•	•
11	4	10	4	10	•
•	•	•	•	•	•
4	8	9	9	5	•
•	•	•	•	•	•
6	4	1	7	2	•
•	•	•	•	•	•



Now use squared paper to make some of your own.





# Cross Out

A game for 2 players.

Roll 2 dice. Multiply the 2 numbers together.

Write the answer in any box on the **other players** grid.

Take it in turns until the grids are full.

Now keep rolling the dice, but cross off the total if it is on **your** grid.

The first player to cross off all the numbers on their grid wins.



## Game 1.

Player 1 \_\_\_\_\_

Player 2 \_\_\_\_\_



Winner of game 1 \_\_\_\_\_

## Game 2.

Player 1 \_\_\_\_\_

Player 2 \_\_\_\_\_





Winner of game 2 \_\_\_\_\_

## Game 3.

Player 1 \_\_\_\_\_

Player 2 \_\_\_\_\_



Winner of game 3 \_\_\_\_\_

## Game 4.

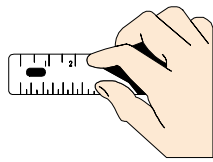
Player 1 \_\_\_\_\_

Player 2 \_\_\_\_\_





Winner of game 4 \_\_\_\_\_



# Centimetres (cm)



## SECTION A

Use a ruler to measure the lines and give your answers in centimetres.

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_ 6. \_\_\_\_\_ 7. \_\_\_\_\_ 8. \_\_\_\_\_ 9. \_\_\_\_\_ 10. \_\_\_\_\_

11. \_\_\_\_\_

12. \_\_\_\_\_

13. \_\_\_\_\_

14. \_\_\_\_\_

15. \_\_\_\_\_

16. \_\_\_\_\_

17. \_\_\_\_\_

18. \_\_\_\_\_

19. \_\_\_\_\_

20. \_\_\_\_\_

21. \_\_\_\_\_

22. \_\_\_\_\_

23. \_\_\_\_\_

24. \_\_\_\_\_

25. \_\_\_\_\_



## SECTION B

Use a ruler and a pencil to draw lines that measure the following lengths:

- |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|
| 1. 7 cm   | 2. 3 cm   | 3. 9 cm   | 4. 5 cm   | 5. 12 cm  |
| 6. 2 cm   | 7. 13 cm  | 8. 1 cm   | 9. 15 cm  | 10. 8 cm  |
| 11. 14 cm | 12. 11 cm | 13. 19 cm | 14. 4 cm  | 15. 20 cm |
| 16. 18 cm | 17. 6 cm  | 18. 10 cm | 19. 16 cm | 20. 17 cm |

## SECTION C

Some of these lines are not whole centimetres.

Line 1 =  $2\frac{1}{2}$  cm = 2.5 cm

Measure the lines below, where necessary write the answers as the example above.



1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_
4. \_\_\_\_\_ 5. \_\_\_\_\_
6. \_\_\_\_\_ 7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_ 10. \_\_\_\_\_
11. \_\_\_\_\_ 12. \_\_\_\_\_ 13. \_\_\_\_\_
14. \_\_\_\_\_
15. \_\_\_\_\_ 16. \_\_\_\_\_
17. \_\_\_\_\_ 18. \_\_\_\_\_
19. \_\_\_\_\_ 20. \_\_\_\_\_

## SECTION D

Use a ruler and a pencil to draw lines that measure the following lengths:

- |             |             |             |             |             |
|-------------|-------------|-------------|-------------|-------------|
| 1. 5.5 cm   | 2. 4.5 cm   | 3. 8.5 cm   | 4. 10.5 cm  | 5. 18.5 cm  |
| 6. 3.5 cm   | 7. 11.5 cm  | 8. 16.5 cm  | 9. 12.5 cm  | 10. 2.5 cm  |
| 11. 7.5 cm  | 12. 14.5 cm | 13. 6.5 cm  | 14. 17.5 cm | 15. 20.5 cm |
| 16. 13.5 cm | 17. 1.5 cm  | 18. 15.5 cm | 19. 9.5 cm  | 20. 19.5 cm |

## SECTION E



1 cm = 10 mm

Change the following into mm:

- |                      |                       |                       |                       |            |            |
|----------------------|-----------------------|-----------------------|-----------------------|------------|------------|
| 1. 2 cm              | 2. 5 cm               | 3. 7 cm               | 4. 8 cm               | 5. 4 cm    | 6. 6 cm    |
| 7. 10 cm             | 8. 3 cm               | 9. 11 cm              | 10. 9 cm              | 11. 15 cm  | 12. 18 cm  |
| 13. 17 cm            | 14. 12 cm             | 15. 20 cm             | 16. 30 cm             | 17. 40 cm  | 18. 50 cm  |
| 19. $\frac{1}{2}$ cm | 20. $1\frac{1}{2}$ cm | 21. $2\frac{1}{2}$ cm | 22. $5\frac{1}{2}$ cm | 23. 3.5 cm | 24. 4.5 cm |
| 25. 1.5 cm           | 26. 0.5 cm            | 27. 0.2 cm            | 28. 0.1 cm            | 29. 0.3 cm | 30. 0.9 cm |

Change the following into cm:

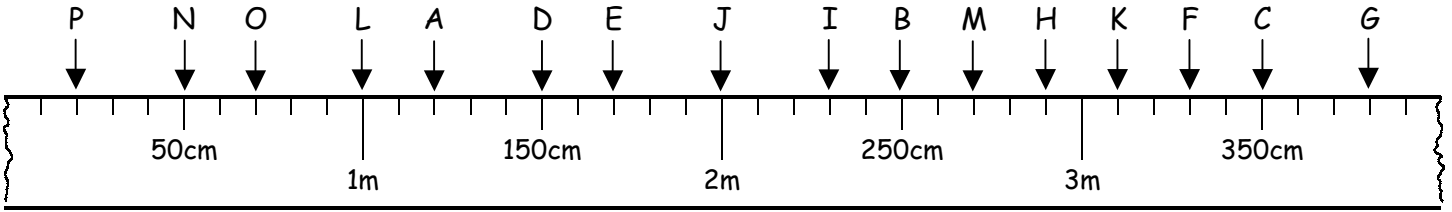
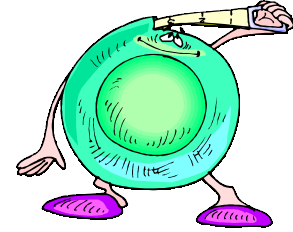
- |            |            |            |            |            |            |
|------------|------------|------------|------------|------------|------------|
| 31. 40 mm  | 32. 30 mm  | 33. 10 mm  | 34. 20 mm  | 35. 50 mm  | 36. 70 mm  |
| 37. 60 mm  | 38. 90 mm  | 39. 80 mm  | 40. 100 mm | 41. 120 mm | 42. 130 mm |
| 43. 150 mm | 44. 200 mm | 45. 300 mm | 46. 250 mm | 47. 350 mm | 48. 610 mm |
| 49. 25 mm  | 50. 35 mm  | 51. 45 mm  | 52. 15 mm  | 53. 68 mm  | 54. 77 mm  |
| 55. 28 mm  | 56. 5 mm   | 57. 3 mm   | 58. 2 mm   | 59. 8 mm   | 60. 9 mm   |



# Metres and Centimetres

This is part of a tape measure (not the correct size)

$1 \text{ metre} = 100 \text{ centimetres}$



## SECTION A

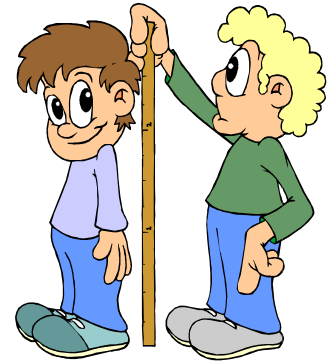
On the tape measure above:

A:  $120\text{cm} = 1\text{m } 20\text{cm}$

B:  $250\text{cm} =$

C:

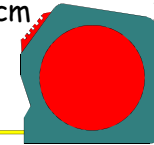
Copy and complete the list above for the labels marked A – P.



## SECTION B

Change the following measurements into centimetres:

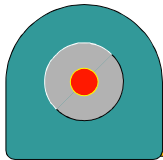
- |             |             |             |             |             |
|-------------|-------------|-------------|-------------|-------------|
| 1. 1m 32cm  | 2. 1m 58cm  | 3. 1m 73cm  | 4. 1m 84cm  | 5. 1m 99cm  |
| 6. 2m 51cm  | 7. 2m 65cm  | 8. 3m 26cm  | 9. 3m 17cm  | 10. 4m 42cm |
| 11. 4m 38cm | 12. 4m 53cm | 13. 5m 74cm | 14. 5m 89cm | 15. 5m 91cm |
| 16. 1m 40cm | 17. 1m 4cm  | 18. 1m 20cm | 19. 1m 2cm  | 20. 1m 70cm |
| 21. 1m 7cm  | 22. 2m 50cm | 23. 2m 5cm  | 24. 2m 80cm | 25. 2m 8cm  |
| 26. 3m 4cm  | 27. 4cm 1cm | 28. 5m 6cm  | 29. 4m 9cm  | 30. 3m 2cm  |



## SECTION C

Change the following measurements into metres and centimetres:

- |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|
| 1. 141cm  | 2. 154cm  | 3. 215cm  | 4. 276cm  | 5. 331cm  |
| 6. 243cm  | 7. 267cm  | 8. 284cm  | 9. 295cm  | 10. 399cm |
| 11. 327cm | 12. 342cm | 13. 463cm | 14. 478cm | 15. 482cm |
| 16. 150cm | 17. 130cm | 18. 120cm | 19. 260cm | 20. 290cm |
| 21. 340cm | 22. 380cm | 23. 390cm | 24. 400cm | 25. 200cm |
| 26. 105cm | 27. 206cm | 28. 301cm | 29. 409cm | 30. 502cm |

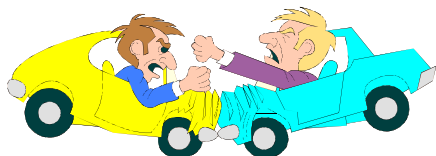


## SECTION D

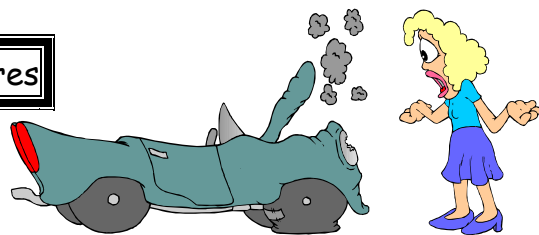
How many more centimetres are needed to make the following into 1 metre:

- |           |           |           |           |            |
|-----------|-----------|-----------|-----------|------------|
| 1. 90 cm  | 2. 70 cm  | 3. 50 cm  | 4. 80 cm  | 5. 60 cm   |
| 6. 10 cm  | 7. 20 cm  | 8. 30 cm  | 9. 40 cm  | 10. 95 cm  |
| 11. 75 cm | 12. 85 cm | 13. 65 cm | 14. 25 cm | 15. 15 cm  |
| 16. 82 cm | 17. 74 cm | 18. 63 cm | 19. 51 cm | 20. 48 cm  |
| 21. 86 cm | 22. 67 cm | 23. 59 cm | 24. 72 cm | 25. 56 cm  |
| 26. 23 cm | 27. 15 cm | 28. 38 cm | 29. 24 cm | 30. 12 cm? |

# Kilometres and Metres



1 kilometre = 1000 metres



## SECTION A

Change the following measurements into metres:

- |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. 2 km               | 2. 4 km               | 3. 3 km               | 4. 5 km               | 5. 7 km               |
| 6. 6 km               | 7. 9 km               | 8. 8 km               | 9. 10 km              | 10. 12 km             |
| 11. $1\frac{1}{2}$ km | 12. $3\frac{1}{2}$ km | 13. $2\frac{1}{2}$ km | 14. $4\frac{1}{2}$ km | 15. $\frac{1}{2}$ km  |
| 16. $\frac{1}{4}$ km  | 17. $1\frac{1}{4}$ km | 18. $3\frac{1}{4}$ km | 19. $\frac{3}{4}$ km  | 20. $1\frac{3}{4}$ km |
| 21. 1.5 km            | 22. 2.5 km            | 23. 4.5 km            | 24. 3.5 km            | 25. 0.5 km            |
| 26. 1.3 km            | 27. 1.7 km            | 28. 1.2 km            | 29. 1.8 km            | 30. 1.9 km            |

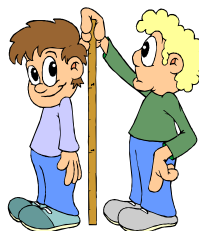
Change the following measurements into kilometres:

- |            |            |            |            |            |
|------------|------------|------------|------------|------------|
| 31. 1000 m | 32. 3000 m | 33. 2000 m | 34. 4000 m | 35. 6000 m |
| 36. 5000 m | 37. 8000 m | 38. 7000 m | 39. 9000 m | 40. 11000m |
| 41. 500 m  | 42. 5500 m | 43. 3500 m | 44. 2500 m | 45. 4500 m |
| 46. 250 m  | 47. 1250 m | 48. 4250 m | 49. 750 m  | 50. 1750 m |
| 51. 1500 m | 52. 1300 m | 53. 1200 m | 54. 1100 m | 55. 1400 m |
| 56. 2600 m | 57. 2700 m | 58. 200 m  | 59. 400 m  | 60. 900 m  |

## SECTION B

You have a ruler, tape measure and trundle wheel.

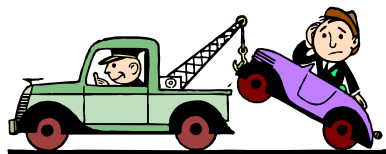
Which one would you use to measure each of the following:



- |                                    |                              |                                 |
|------------------------------------|------------------------------|---------------------------------|
| 1. The length of a pencil          | 2. The length of a road      | 3. The length of a room         |
| 4. The length of a table           | 5. The height of a chair     | 6. The thickness of a note book |
| 7. The width of a blackboard       | 8. The length of a nail      | 9. The length of a river        |
| 10. The length of a piece of chalk | 11. The height of a cupboard | 12. The height of a ceiling     |
| 13. The height of a door           | 14. The height of a CD case  | 15. The width of a bridge?      |

## SECTION C

Use Section B questions 1-15 to decide which unit of length you would use to measure each of them:  
centimetre (cm), metre (m), kilometre (km)



## SECTION D

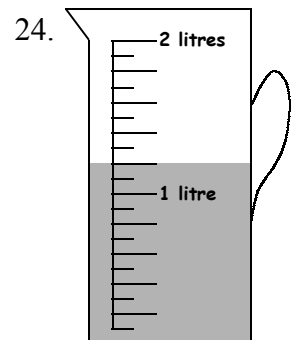
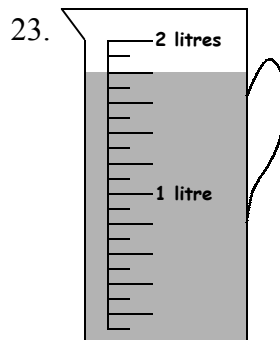
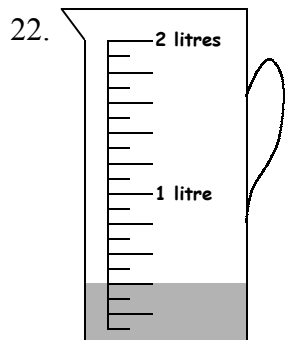
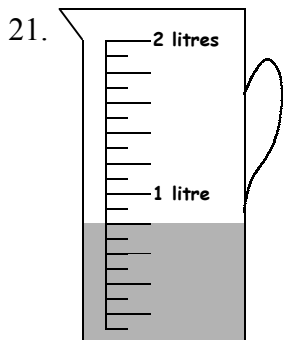
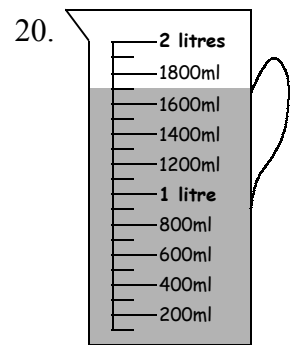
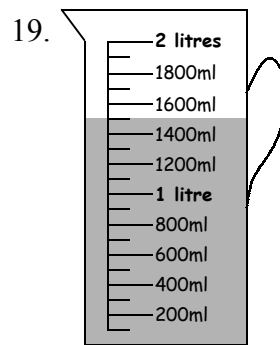
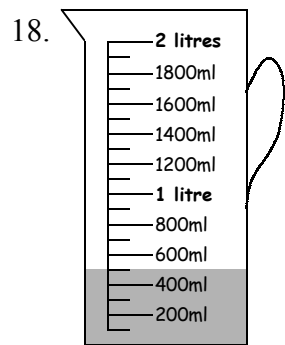
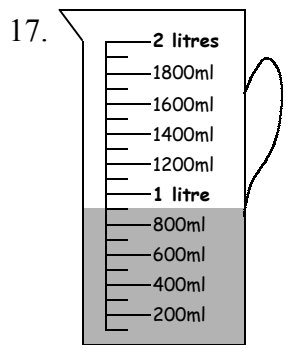
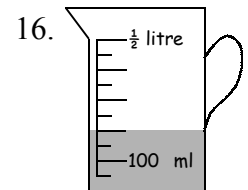
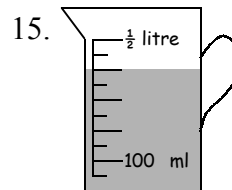
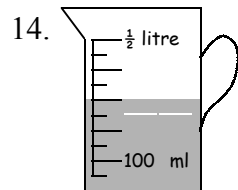
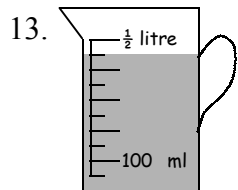
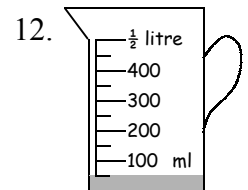
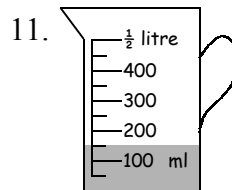
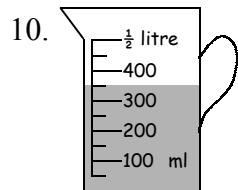
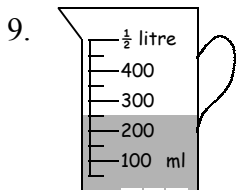
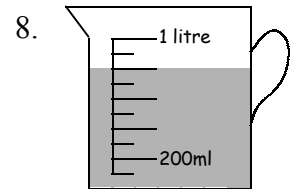
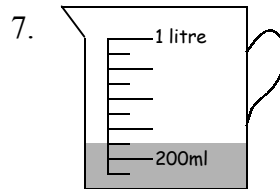
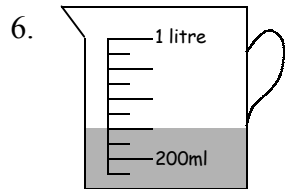
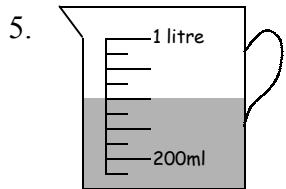
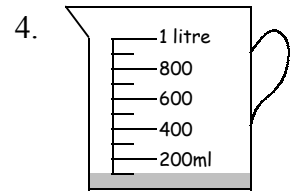
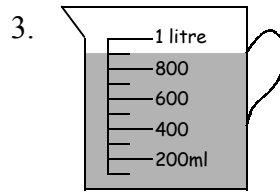
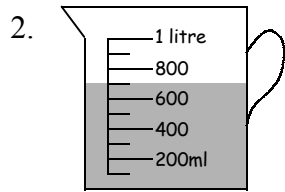
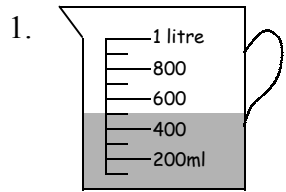
How many more metres are needed to make the following into 1 kilometre:

- |           |           |           |           |            |
|-----------|-----------|-----------|-----------|------------|
| 1. 900 m  | 2. 700 m  | 3. 500 m  | 4. 800 m  | 5. 600 m   |
| 6. 100 m  | 7. 200 m  | 8. 300 m  | 9. 400 m  | 10. 950 m  |
| 11. 750 m | 12. 650 m | 13. 550 m | 14. 150 m | 15. 250 m  |
| 16. 820 m | 17. 740 m | 18. 630 m | 19. 510 m | 20. 480 m  |
| 21. 860 m | 22. 670 m | 23. 590 m | 24. 720 m | 25. 560 m  |
| 26. 230 m | 27. 150 m | 28. 380 m | 29. 240 m | 30. 120 m? |

# Litres and Millilitres

## SECTION A

State the amount of liquid in each of the following containers:



<b>1 litre = 1000 millilitres</b>
-----------------------------------

## **SECTION B**

Change the following measurements into millilitres:

- |                         |                           |                           |                           |                           |
|-------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| 1. 2 litres             | 2. 4 litres               | 3. 3 litres               | 4. 5 litres               | 5. 7 litres               |
| 6. 6 litres             | 7. 1 litre                | 8. 8 litres               | 9. 9 litres               | 10. 10 litres             |
| 11. $\frac{1}{2}$ litre | 12. $2\frac{1}{2}$ litres | 13. $1\frac{1}{2}$ litres | 14. $4\frac{1}{2}$ litres | 15. $3\frac{1}{2}$ litres |
| 16. $\frac{3}{4}$ litre | 17. $2\frac{3}{4}$ litres | 18. $1\frac{3}{4}$ litres | 19. $\frac{3}{4}$ litre   | 20. $1\frac{3}{4}$ litres |
| 21. 1.5 litres          | 22. 3.5 litres            | 23. 4.5 litres            | 24. 2.5 litres            | 25. 0.5 litres            |
| 26. 1.3 litres          | 27. 1.7 litres            | 28. 1.2 litres            | 29. 1.8 litres            | 30. 1.6 litres            |

Change the following measurements into litres:

- |             |             |             |              |             |
|-------------|-------------|-------------|--------------|-------------|
| 31. 1000 ml | 32. 3000 ml | 33. 4000 ml | 34. 6000 ml  | 35. 8000 ml |
| 36. 5000 ml | 37. 9000 ml | 38. 2000 ml | 39. 10000 ml | 40. 7000 ml |
| 41. 500 ml  | 42. 1500 ml | 43. 3500 ml | 44. 2500 ml  | 45. 4500 ml |
| 46. 250 ml  | 47. 1250 ml | 48. 4250 ml | 49. 750 ml   | 50. 2750 ml |
| 51. 1600 ml | 52. 1300 ml | 53. 1200 ml | 54. 1700 ml  | 55. 1900 ml |
| 56. 2400 ml | 57. 2800 ml | 58. 300 ml  | 59. 700 ml   | 60. 800 ml  |

## **SECTION C**

How many more millilitres are needed to make the following into 1 litre:

- |            |            |            |            |             |
|------------|------------|------------|------------|-------------|
| 1. 900 ml  | 2. 700 ml  | 3. 500 ml  | 4. 800 ml  | 5. 600 ml   |
| 6. 200 ml  | 7. 100 ml  | 8. 300 ml  | 9. 400 ml  | 10. 950 ml  |
| 11. 50 ml  | 12. 750 ml | 13. 650 ml | 14. 850 ml | 15. 350 ml  |
| 16. 250 ml | 17. 150 ml | 18. 975 ml | 19. 875 ml | 20. 925 ml  |
| 21. 625 ml | 22. 525 ml | 23. 775 ml | 24. 325 ml | 25. 125 ml  |
| 26. 978 ml | 27. 863 ml | 28. 754 ml | 29. 689 ml | 30. 596 ml? |

## **SECTION D**

Ask your teacher for the “Capacity Worksheet”.

Shade the jugs to represent the quantities of water given below:

- |                         |                        |             |             |             |
|-------------------------|------------------------|-------------|-------------|-------------|
| 1. 900 ml               | 2. 500 ml              | 3. 300 ml   | 4. 1000 ml  | 5. 400 ml   |
| 6. 600 ml               | 7. $\frac{1}{2}$ litre | 8. 100 ml   | 9. 250 ml   | 10. 150 ml  |
| 11. 450 ml              | 12. 500 ml             | 13. 200 ml  | 14. 400 ml  | 15. 50 ml   |
| 16. $\frac{3}{4}$ litre | 17. 1000 ml            | 18. 700 ml  | 19. 1300 ml | 20. 1900 ml |
| 21. $\frac{1}{2}$ litre | 22. 1.5 litres         | 23. 2000 ml | 24. 100 ml  |             |

## **SECTION E**

- Find at least 10 containers at school or home that have measurements or quantities written on them in millilitres or litres.
- Draw a table into your book (like the one below) to list the items you have found and the quantity they have written on them.

Item	Quantity
Bottle of Shampoo	400ml

- Write the list of items again putting them into order of size, smallest first.

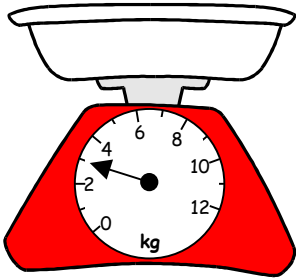


# Measuring Weight

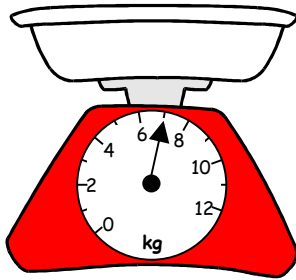
## SECTION A

Write down the number of kg shown on each of the following scales. You might need to use a fraction of a kg.

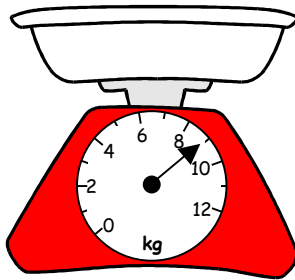
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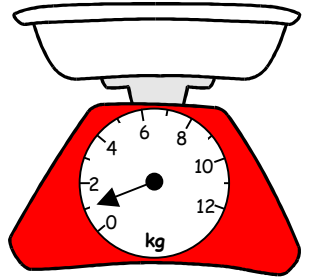
2.



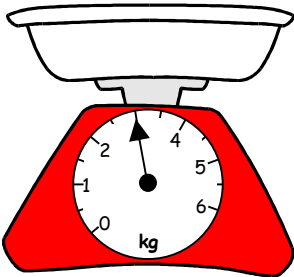
3.



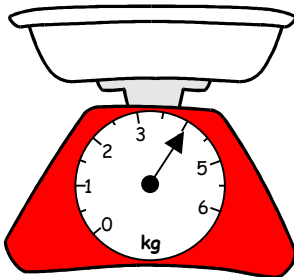
4.



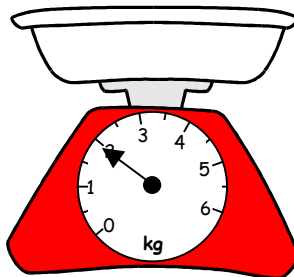
5.



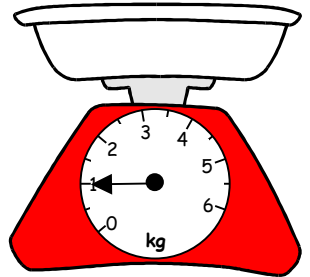
6.



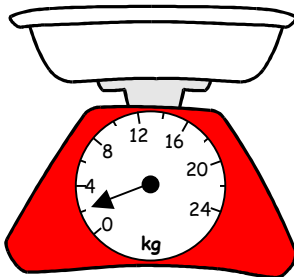
7.



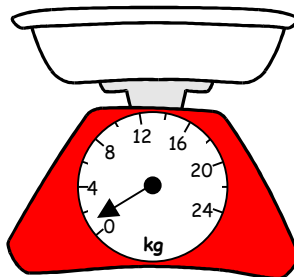
8.



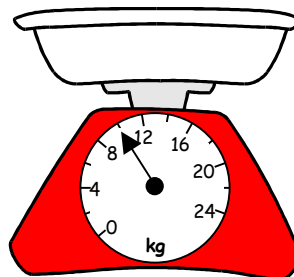
9.



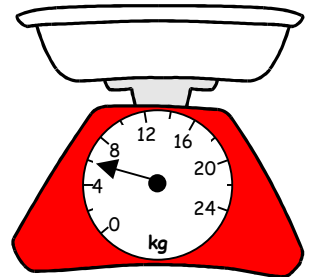
10.



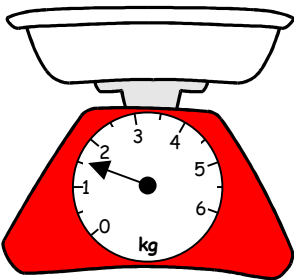
11.



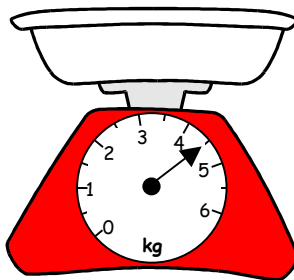
12.



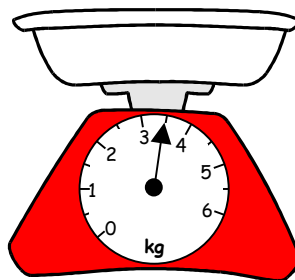
13.



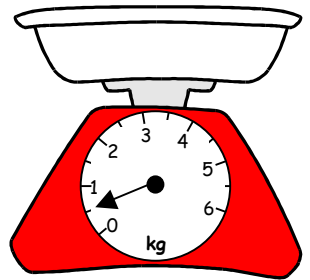
14.



15.

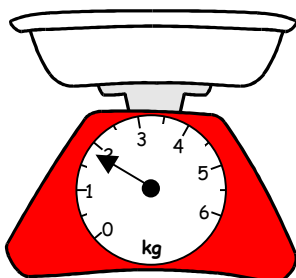


16.

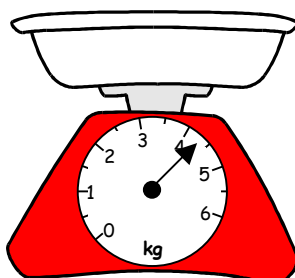


Write the following to the nearest kg.

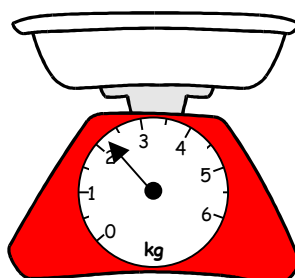
17.



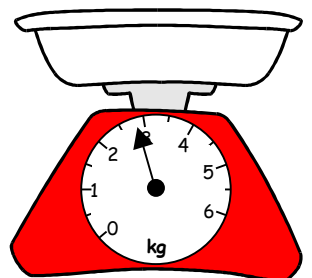
18.



19.



20.



**1 kilogram = 1000 grams**



**SECTION B**

Change the following measurements into grams:

- |                      |                       |                       |                       |                       |
|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. 3 kg              | 2. 5 kg               | 3. 4 kg               | 4. 6 kg               | 5. 8 kg               |
| 6. 7 kg              | 7. 2 kg               | 8. 9 kg               | 9. 10 kg              | 10. 12 kg             |
| 11. $\frac{1}{2}$ kg | 12. $1\frac{1}{2}$ kg | 13. $2\frac{1}{2}$ kg | 14. $4\frac{1}{2}$ kg | 15. $3\frac{1}{2}$ kg |
| 16. $\frac{1}{4}$ kg | 17. $1\frac{1}{4}$ kg | 18. $3\frac{1}{4}$ kg | 19. $\frac{3}{4}$ kg  | 20. $1\frac{3}{4}$ kg |
| 21. 1.5 kg           | 22. 2.5 kg            | 23. 4.5 kg            | 24. 3.5 kg            | 25. 0.5 kg            |
| 26. 1.4 kg           | 27. 1.8 kg            | 28. 1.3 kg            | 29. 1.9 kg            | 30. 1.7 kg            |

Change the following measurements into kilograms:

- |            |            |            |             |            |
|------------|------------|------------|-------------|------------|
| 31. 1000 g | 32. 2000 g | 33. 3000 g | 34. 5000 g  | 35. 7000 g |
| 36. 4000 g | 37. 9000 g | 38. 8000 g | 39. 10000 g | 40. 6000 g |
| 41. 500 g  | 42. 1500 g | 43. 3500 g | 44. 2500 g  | 45. 4500 g |
| 46. 250 g  | 47. 1250 g | 48. 4250 g | 49. 750 g   | 50. 2750 g |
| 51. 1200 g | 52. 1400 g | 53. 1300 g | 54. 1600 g  | 55. 1800 g |
| 56. 2300 g | 57. 2900 g | 58. 200 g  | 59. 400 g   | 60. 900 g  |



**SECTION C**

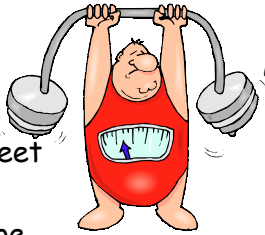
How many more grams are needed to make the following into 1 kilogram:

- |           |           |           |           |            |
|-----------|-----------|-----------|-----------|------------|
| 1. 900 g  | 2. 700 g  | 3. 500 g  | 4. 800 g  | 5. 600 g   |
| 6. 200 g  | 7. 100 g  | 8. 300 g  | 9. 400 g  | 10. 950 g  |
| 11. 50 g  | 12. 750 g | 13. 650 g | 14. 850 g | 15. 350 g  |
| 16. 250 g | 17. 150 g | 18. 975 g | 19. 875 g | 20. 925 g  |
| 21. 625 g | 22. 525 g | 23. 775 g | 24. 325 g | 25. 125 g  |
| 26. 978 g | 27. 863 g | 28. 754 g | 29. 689 g | 30. 596 g? |

**SECTION D**

A bag of sugar weighs about 1kg = 1000g

For each of the items below estimate if they are:

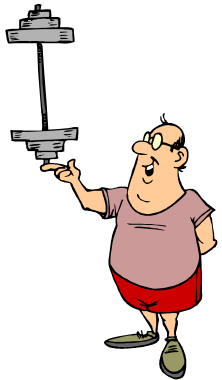


More than a kilogram

or

Less than a kilogram

- |                         |                        |                         |
|-------------------------|------------------------|-------------------------|
| 1. A sweet              | 2. An elephant         | 3. A coat               |
| 4. A tie                | 5. A bus               | 6. A brick              |
| 7. A shoe               | 8. A robin             | 9. A rack of test tubes |
| 10. A box of cornflakes | 11. A bar of chocolate | 12. Your school bag     |



**SECTION E**

Use the questions from Section D above, but this time state if you would weigh them using kilograms or grams.

**SECTION F**

- Find at least 10 items with the measurements or quantities written in kilograms or grams.
- List the items you have found with the weights in order of size, heaviest first.

# Polygons

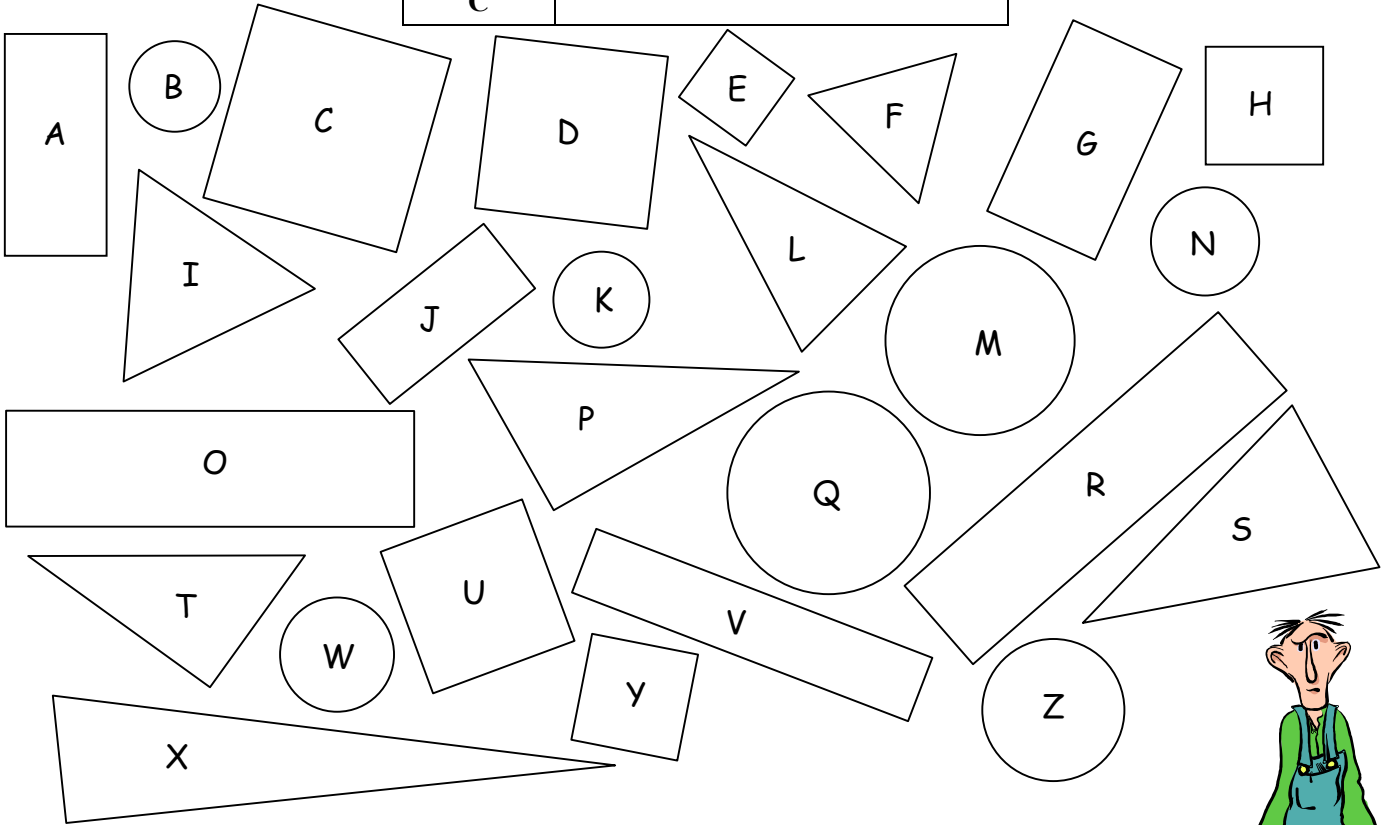


## SECTION A

Copy and complete the table using the shapes and names below:

Square	Rectangle	Triangle	Circle
--------	-----------	----------	--------

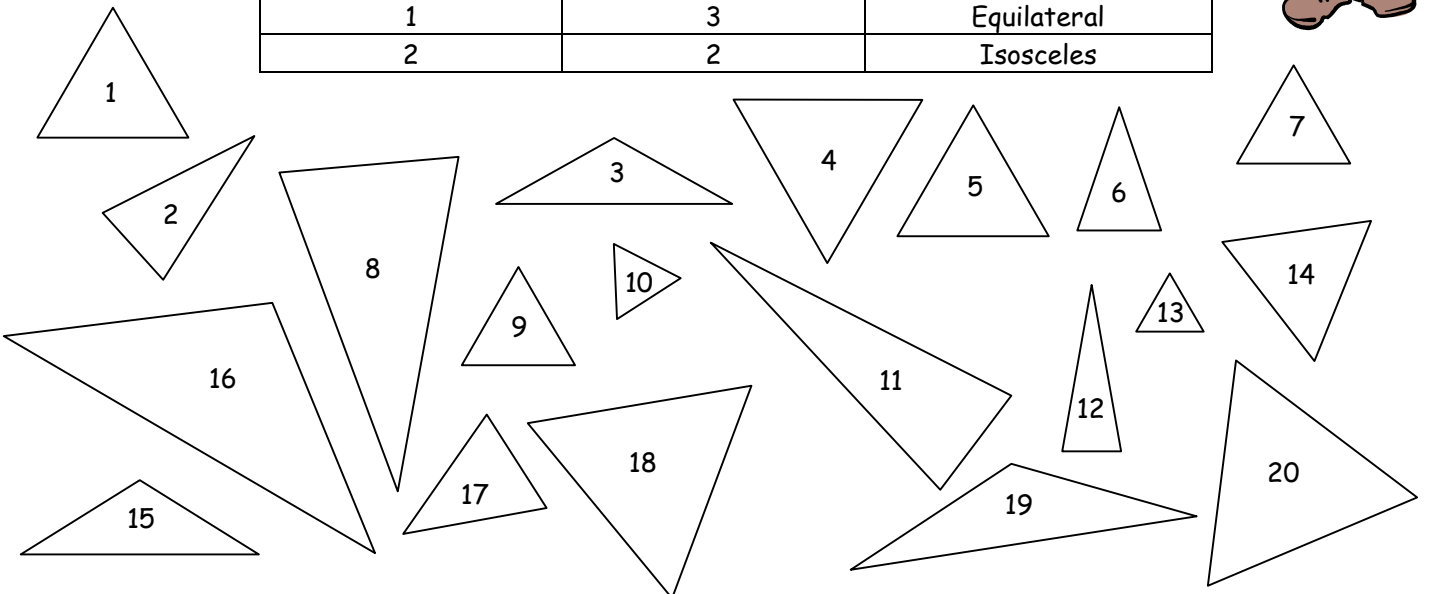
Shape	Polygon name
A	
B	
C	



## SECTION B

Copy and complete the following table using the triangles below:

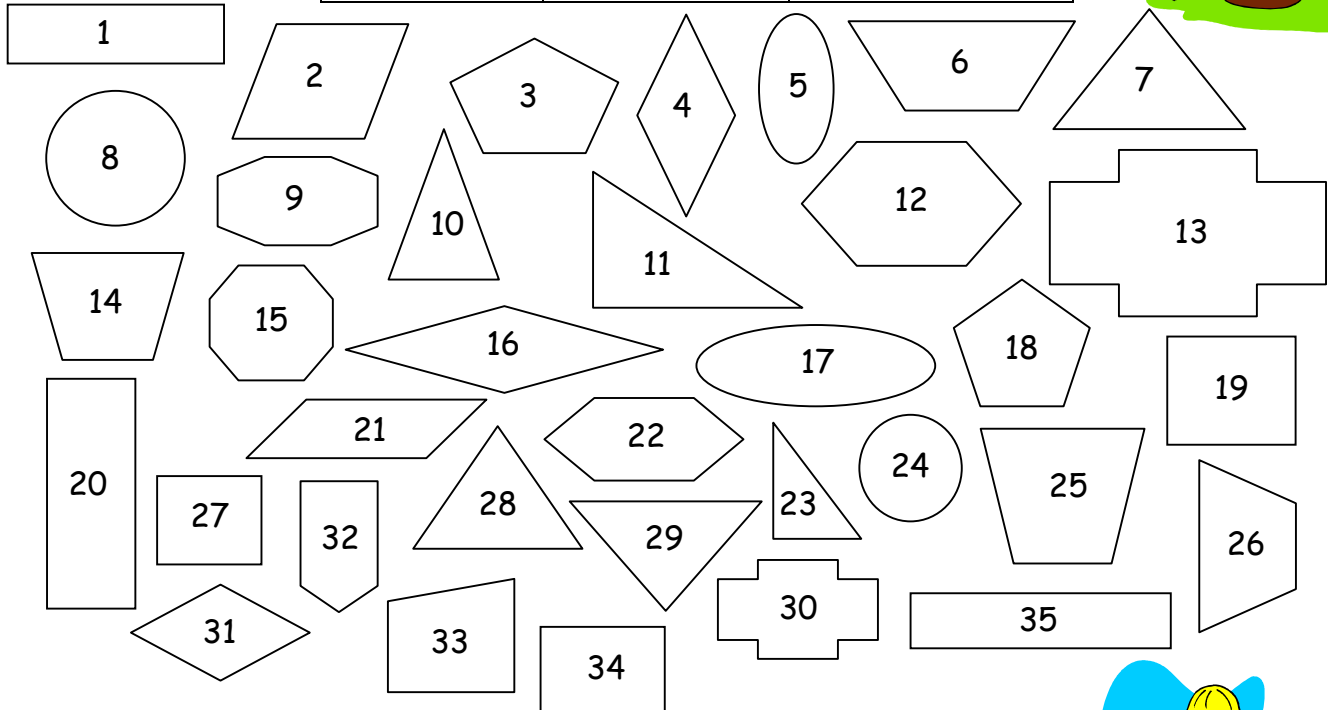
Triangle	Number of Equal Sides	Name of triangle Equilateral/Isosceles
1	3	Equilateral
2	2	Isosceles



## SECTION C

Copy and complete the table:

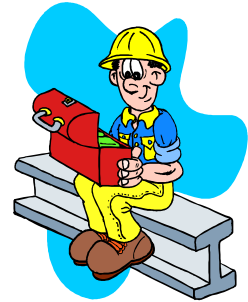
Shape Number	Number of Sides	Quadrilateral (Y/N)
1	4	Yes
2		



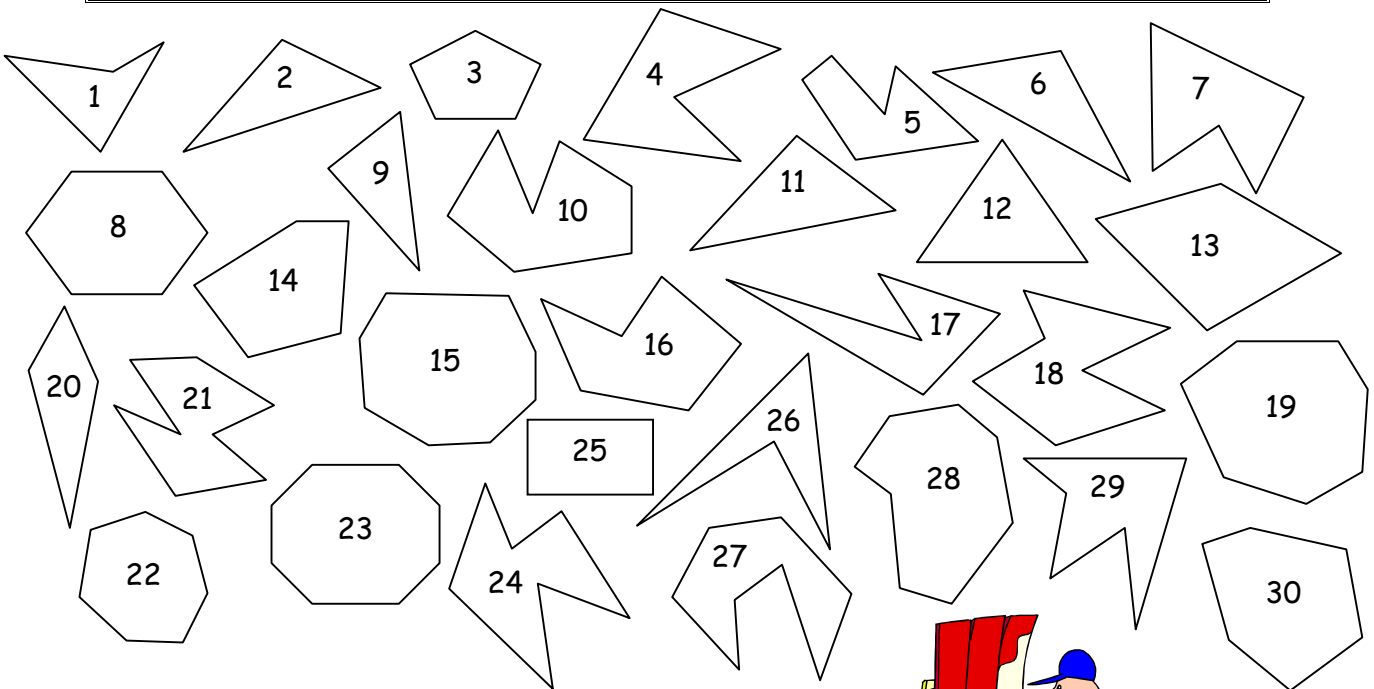
## SECTION D

Copy and complete this table using the words and shapes below:

Shape Number	Number of Sides	Name of Shape
1	4	Quadrilateral
2		



Triangle    Quadrilateral    Pentagon    Hexagon    Heptagon    Octagon



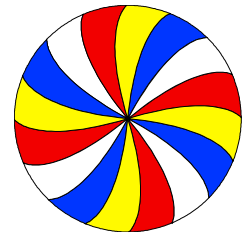
## SECTION E

Draw 3 different types of:

1. Triangle
2. Quadrilateral
3. Pentagon
4. Hexagon
5. Heptagon
6. Octagon

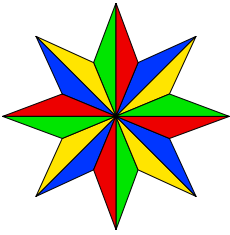


# Regular Polygons

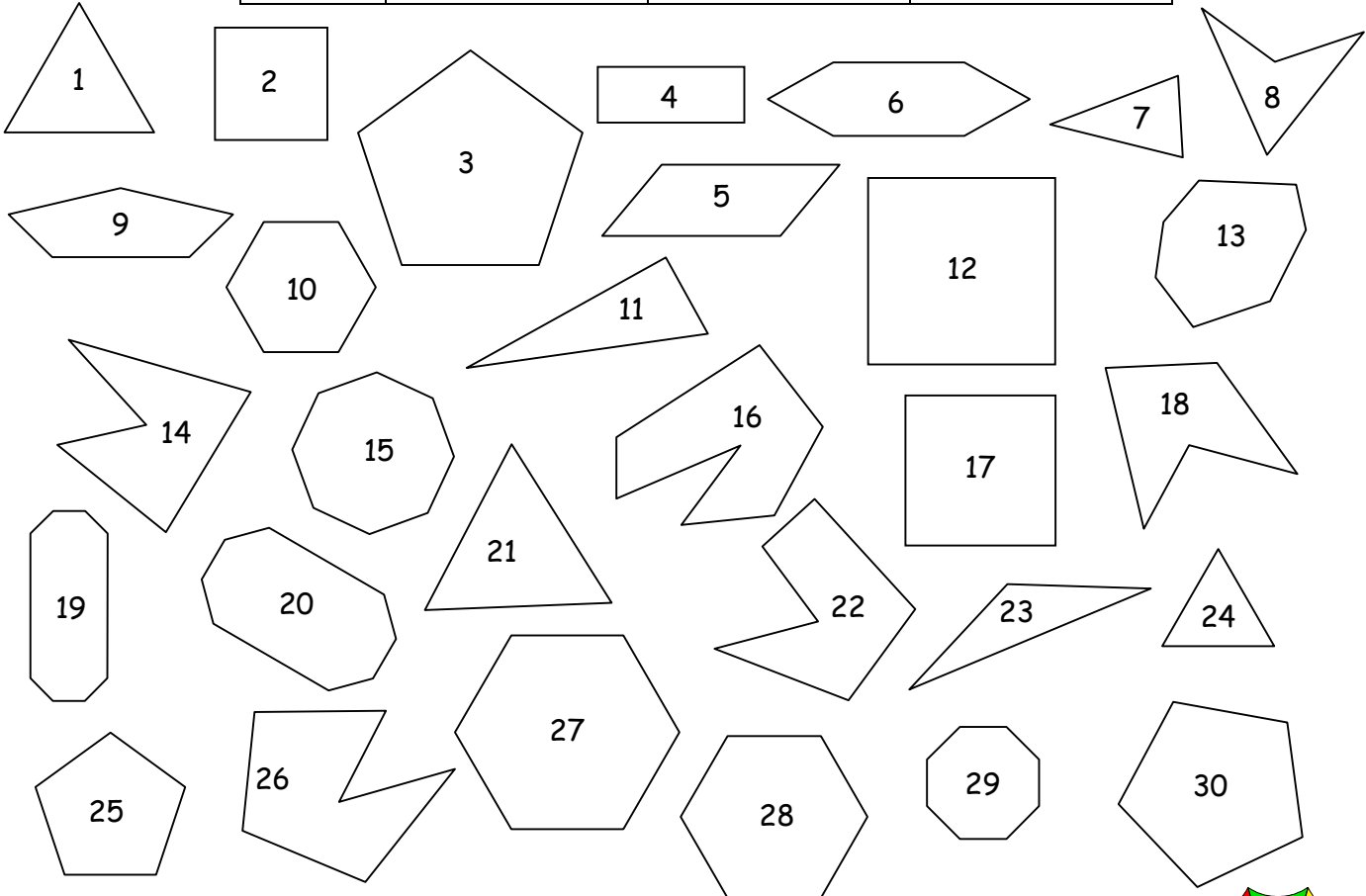


## SECTION A

Copy and complete the table using the shapes and names below:

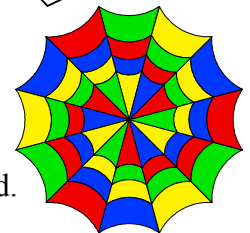


Shape	Number of Sides	Regular or Irregular	Polygon name
1	3	Regular	Triangle
2			
3			
4			

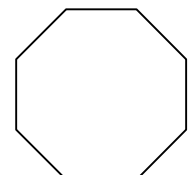
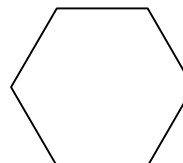
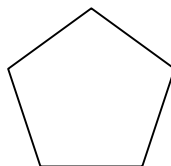
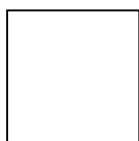
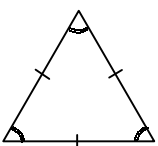


## SECTION B

Regular polygons should have all their equal angles marked and all their equal sides marked.



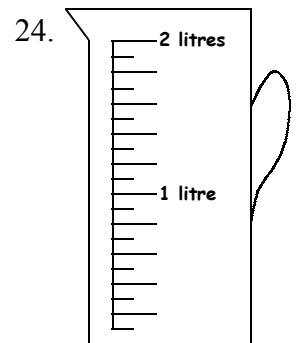
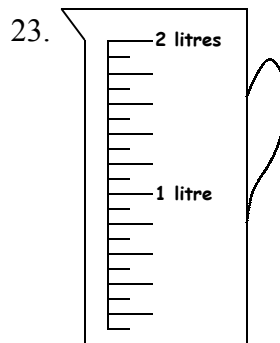
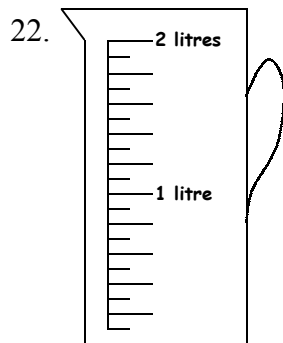
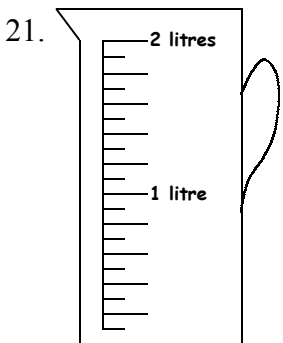
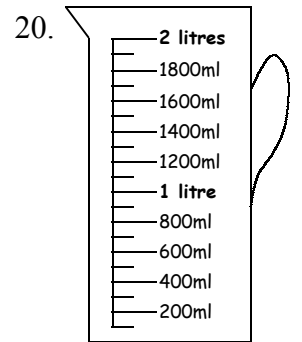
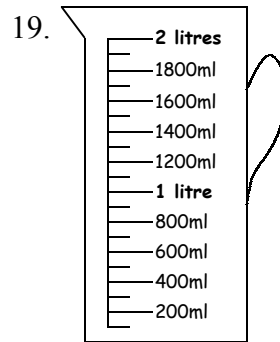
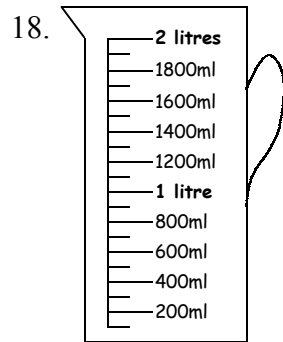
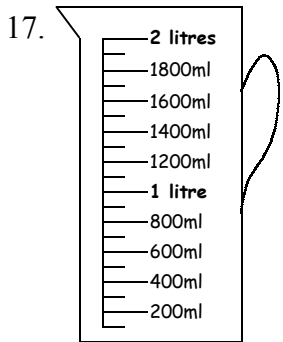
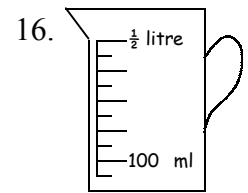
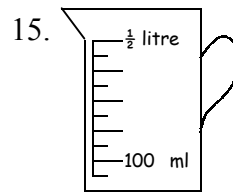
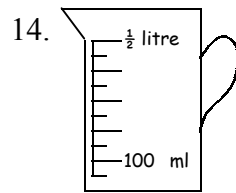
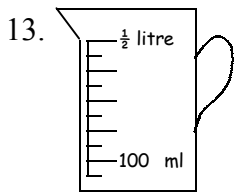
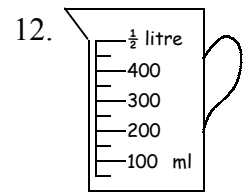
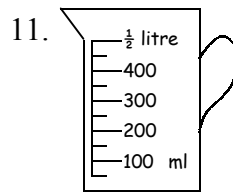
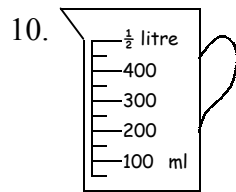
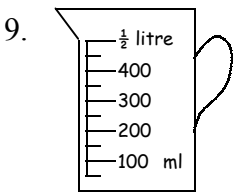
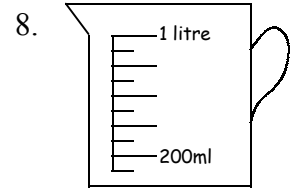
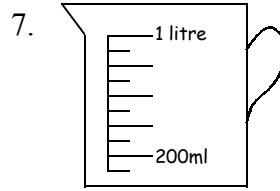
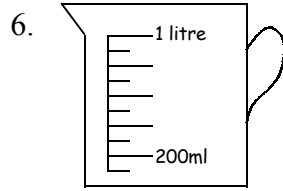
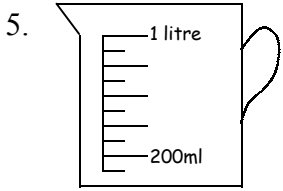
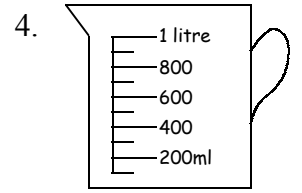
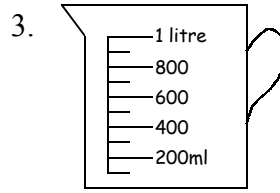
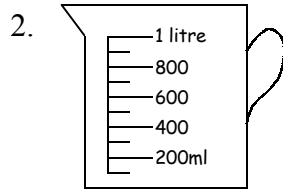
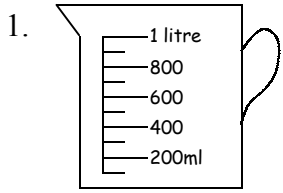
- Copy each of the following diagrams and mark their equal sides and equal angles. The first one has been done for you.



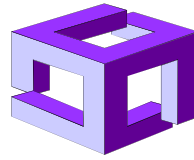
- Copy each of the diagrams again. Draw the lines of symmetry on each one.

# Capacity Worksheet

For use with the Litres and Millilitres Worksheet



# Solids

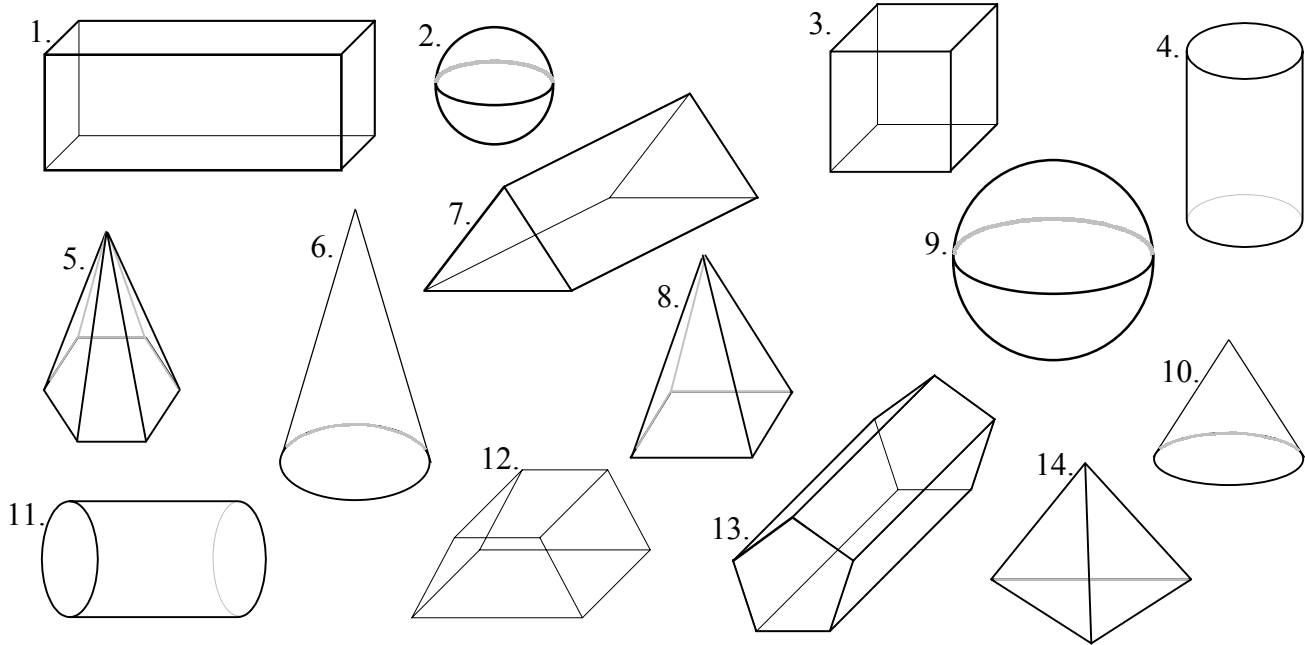


## SECTION A

Copy and complete the table using the names and diagrams below:

Cube	Cuboid	Pyramid	Prism	Sphere	Cylinder	Cone
------	--------	---------	-------	--------	----------	------

Solid	Solid name
1	
2	

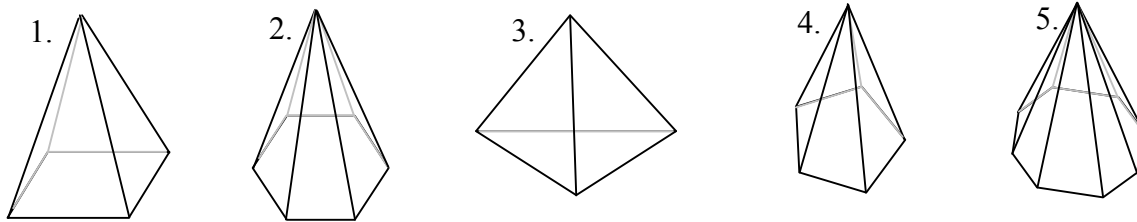


## SECTION B

Pyramids can be given extra names such as:

Triangular-based Pyramid, Square-based Pyramid, Hexagonal-based Pyramid, etc....

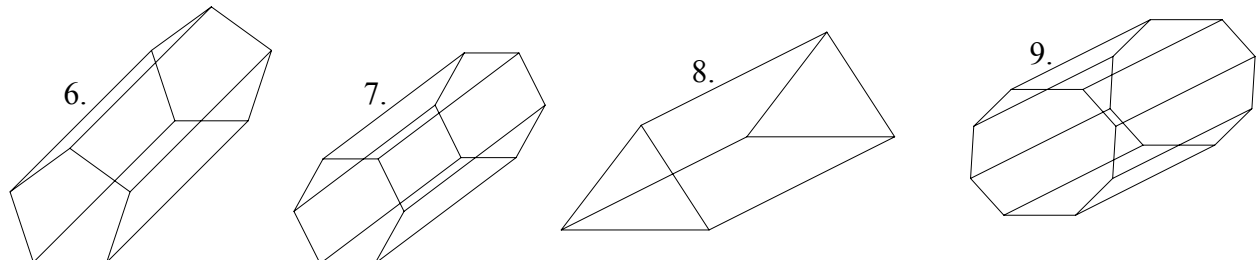
What extra names can you give to the following pyramids?



Prisms can be given extra names such as:

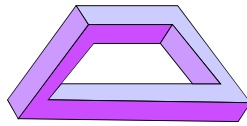
Triangular Prisms, Pentagonal Prisms, etc...

What extra names can you give to the following prisms?



## SECTION C

Copy and complete the table below:



	Solid Name	Number of Corners or Vertices	Number of Straight Edges	Number of Flat Faces
1.	Cube			
2.	Cuboid			
3.	Triangular-based Pyramid			
4.	Square-based Pyramid			
5.	Pentagonal-based Pyramid			
6.	Hexagonal-based Pyramid			
7.	Octagonal-based Pyramid			
8.	Triangular Prism			
9.	Pentagonal Prism			
10.	Hexagonal Prism			
11.	Octagonal Prism			
12.	Cylinder			
13.	Cone			
14.	Sphere			



## SECTION D

Use a sensible solid name to describe each of the everyday items shown below:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

## SECTION E

- Look in newspapers, magazines and catalogues to find at least 10 pictures that can be described as being one of the mathematical names given to solids.
- Stick the pictures into your book and label them with the correct mathematical name.

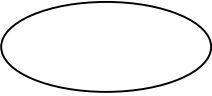
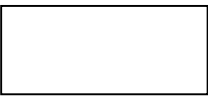

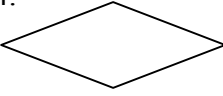


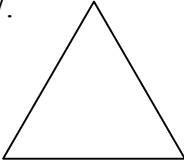
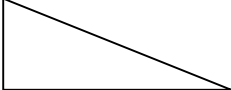
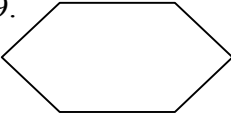
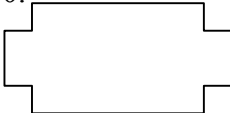
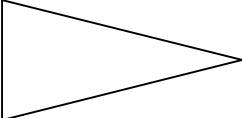
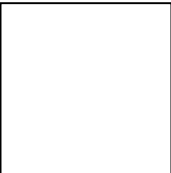
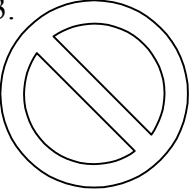

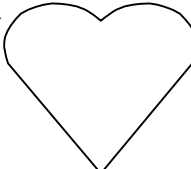
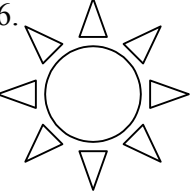
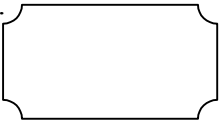
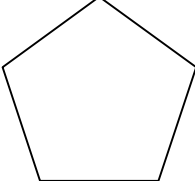
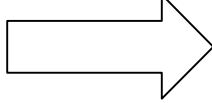
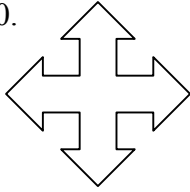
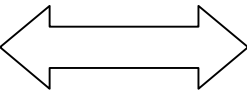
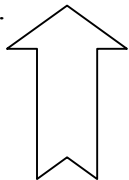
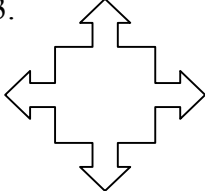
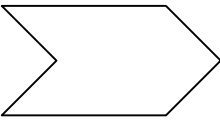
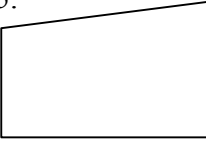
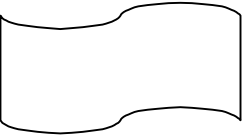

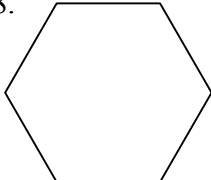
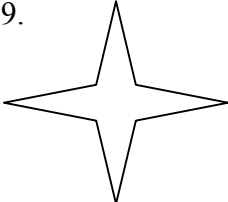
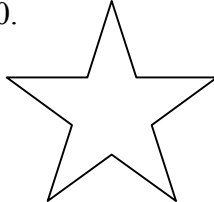

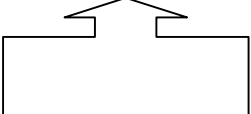
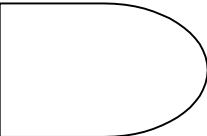

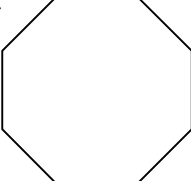
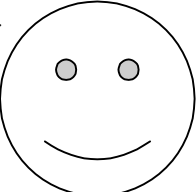
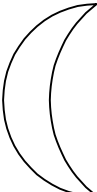

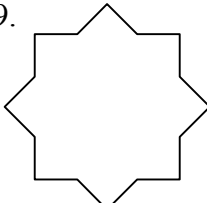
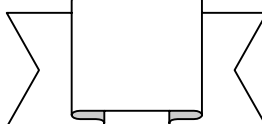




# Lines of Symmetry

## SECTION A

Draw all the lines of symmetry on each of the shapes below:  
You might find a mirror helpful to check your work.

1. 	2. 	3. 	4. 	5. 
6. 	7. 	8. 	9. 	10. 
11. 	12. 	13. 	14. 	15. 
16. 	17. 	18. 	19. 	20. 
21. 	22. 	23. 	24. 	25. 
26. 	27. 	28. 	29. 	30. 
31. 	32. 	33. 	34. 	35. 
36. 	37. 	38. 	39. 	40. 






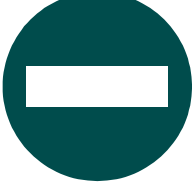






## SECTION B

Draw all the lines of symmetry on each of the letters of the alphabet below:

A B C D E F  
G H I J K L  
M N O P Q R  
S T U V W X  
Y Z

## SECTION C

Draw all the lines of symmetry on the signs below:

- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 
- 

## SECTION D

Find logos and diagrams that have lines of symmetry on them.

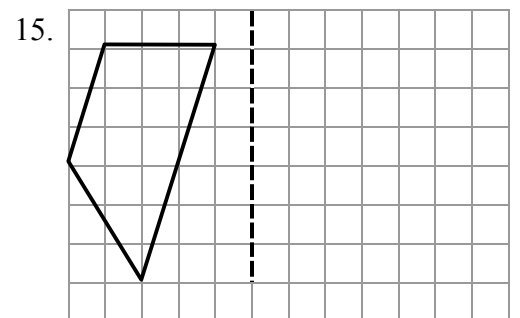
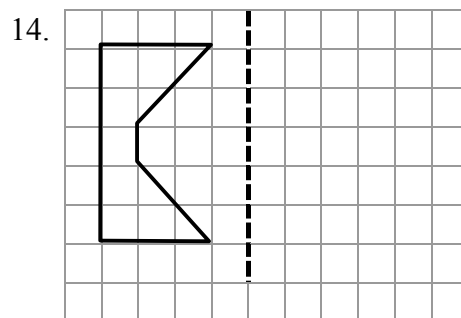
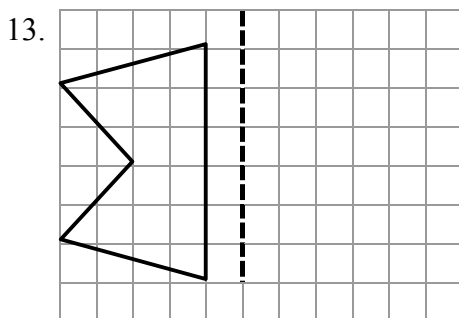
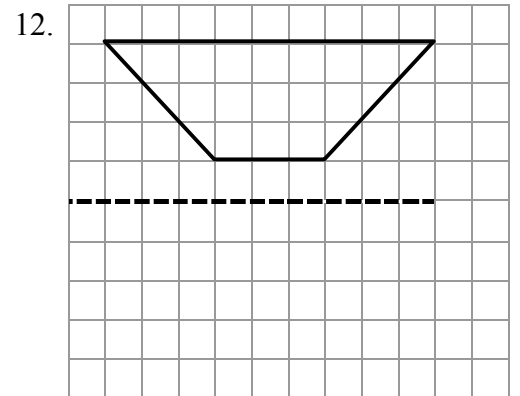
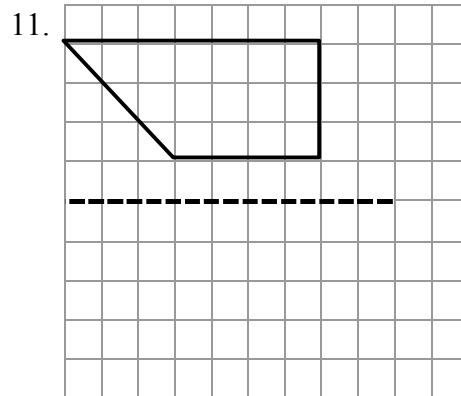
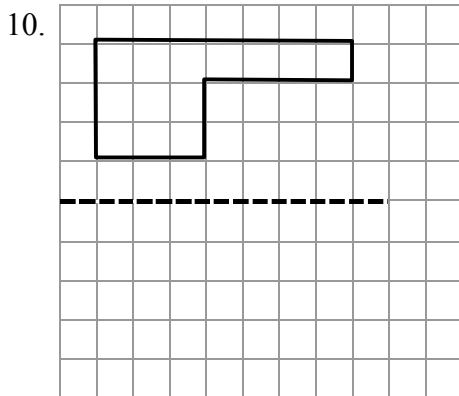
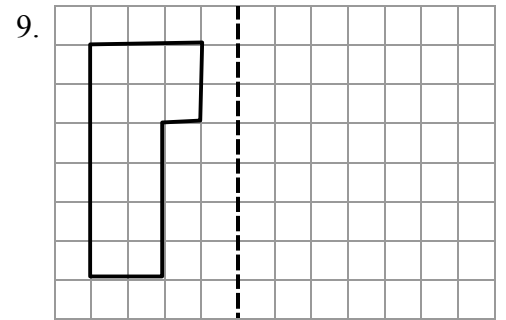
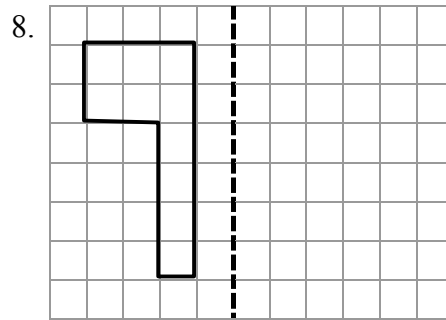
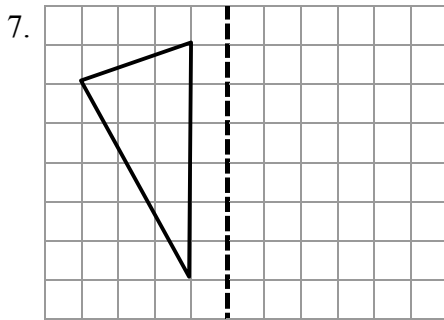
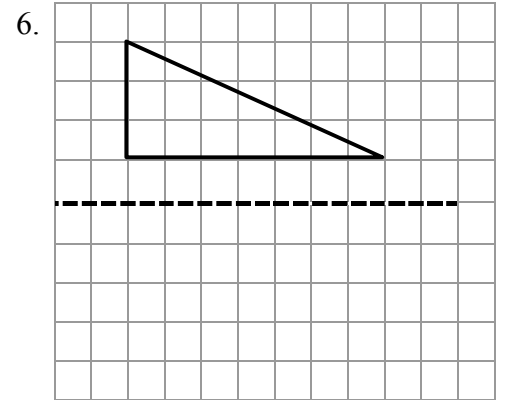
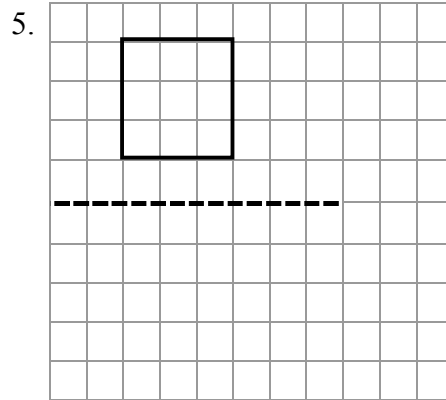
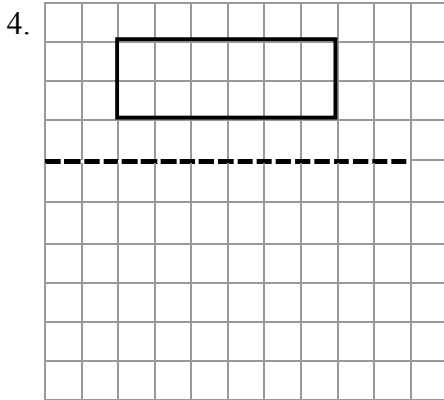
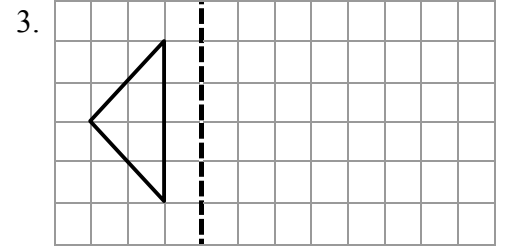
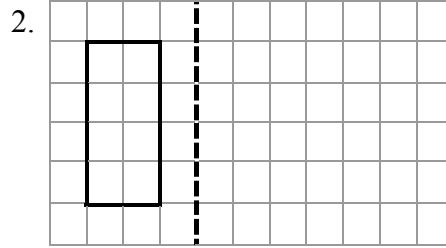
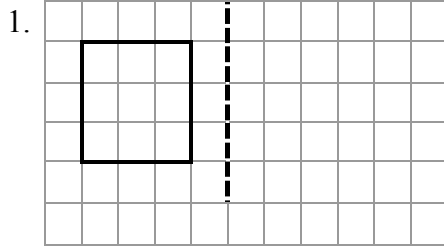
Newspapers, magazines, leaflets, packaging are full of interesting symmetry.

Cut out some examples, stick them into your book and draw the lines of symmetry onto them.

# Reflection

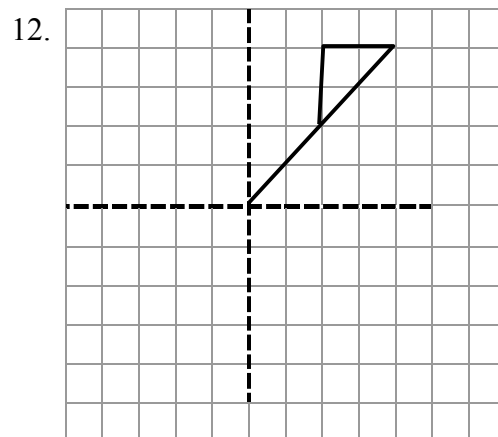
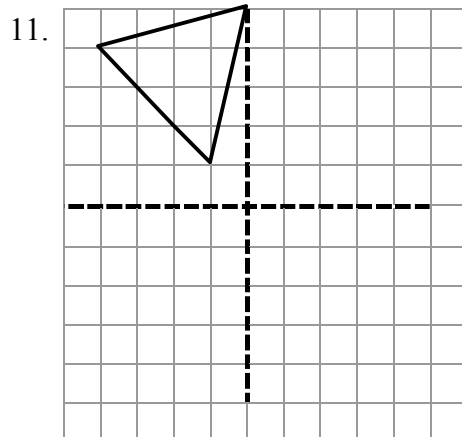
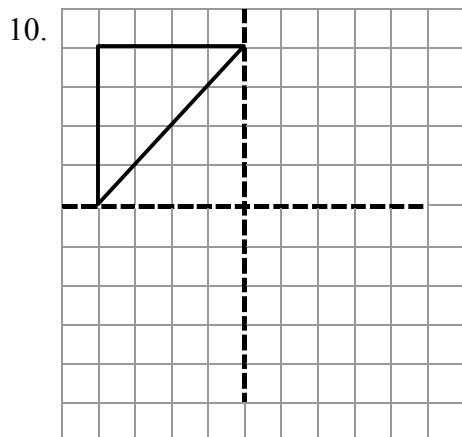
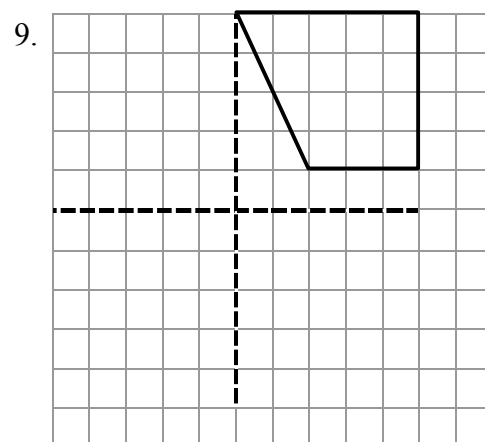
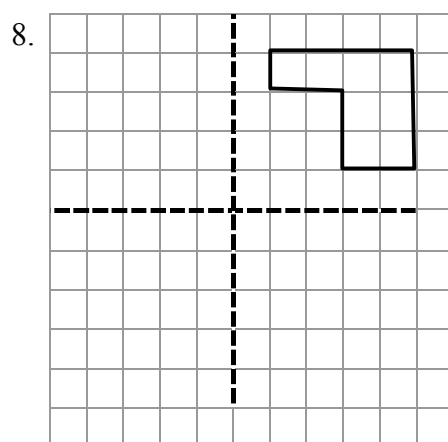
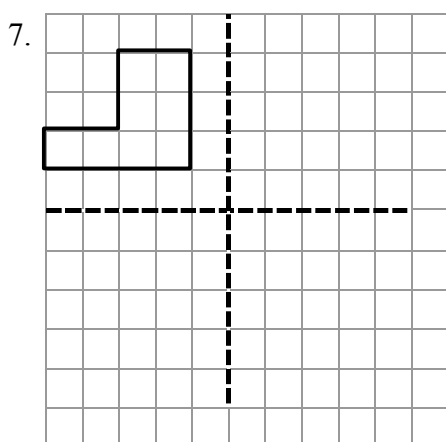
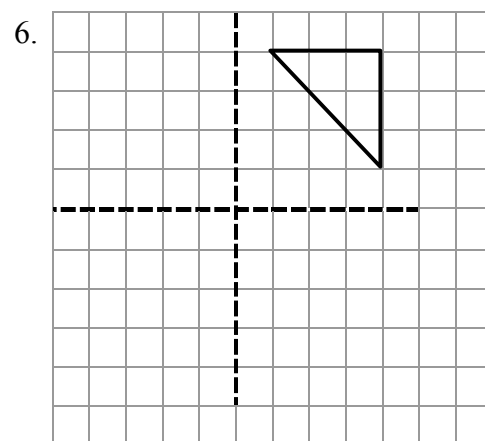
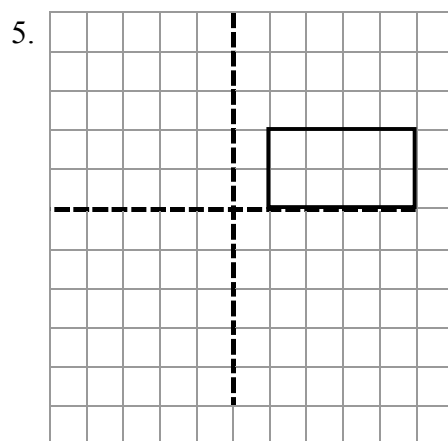
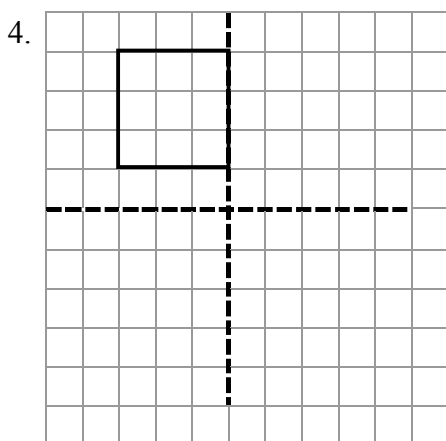
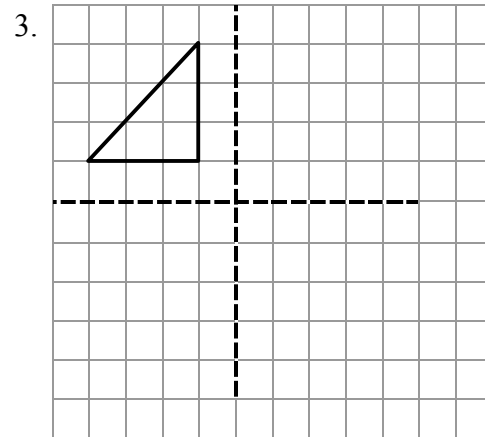
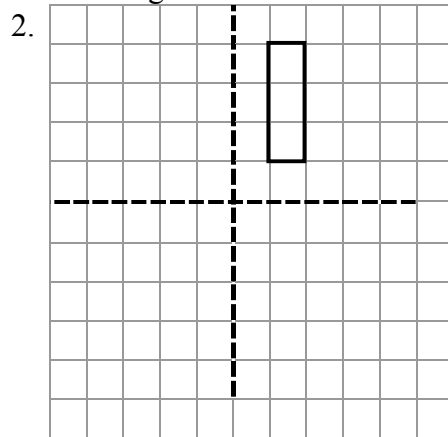
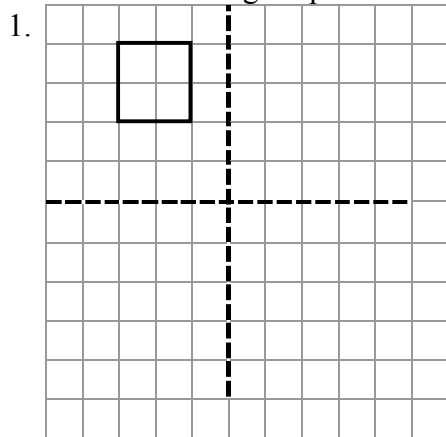
## SECTION A

Reflect each of the following shapes in the dotted lines shown.



## SECTION B

Reflect the following shapes in the 2 dotted lines given.



# Right Angles

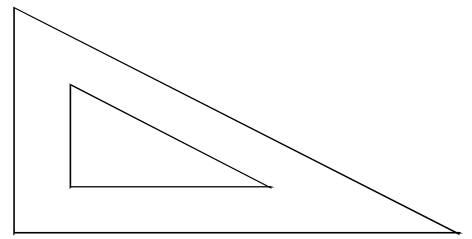
## SECTION A

For each of the following angles, state whether they are:

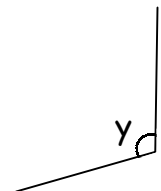
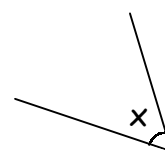
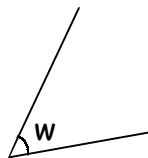
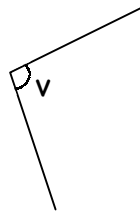
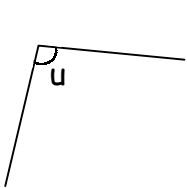
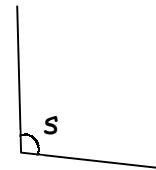
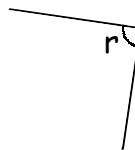
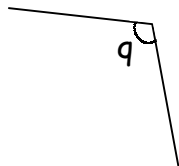
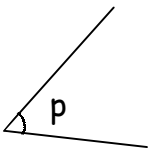
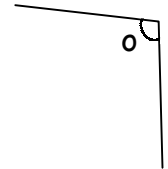
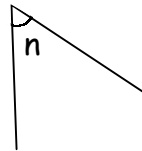
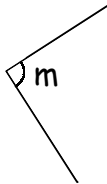
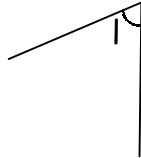
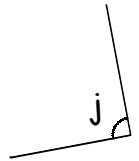
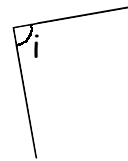
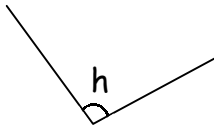
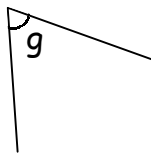
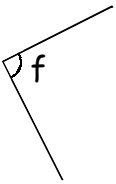
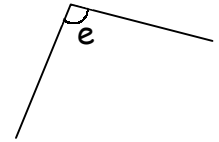
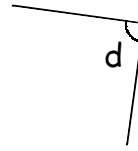
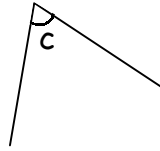
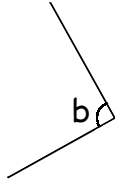
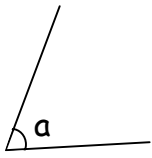
**More than a right angle**

**Less than a right angle**

**Equal to a right angle**



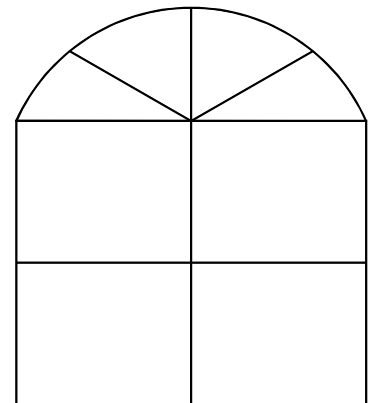
You might find the right angled corner of a piece of paper useful to check.



## SECTION B

Write a list of 10 different objects that have right angles in your:

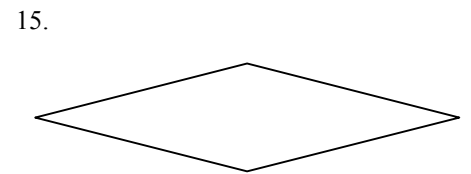
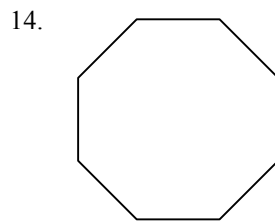
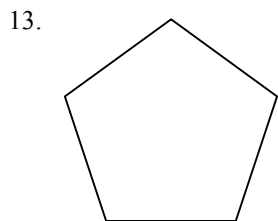
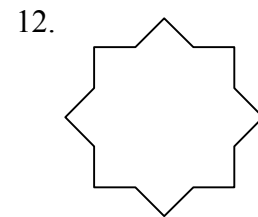
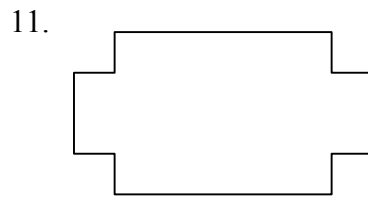
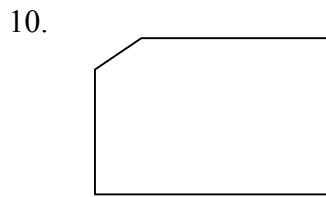
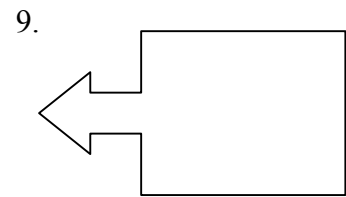
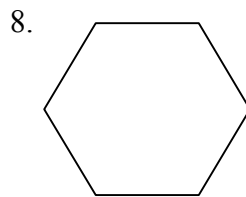
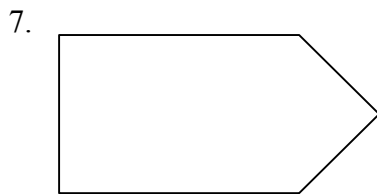
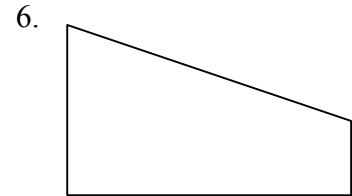
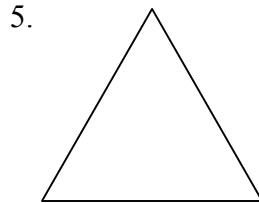
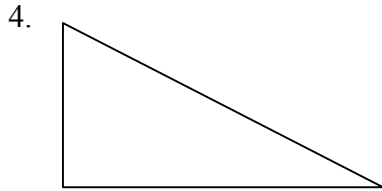
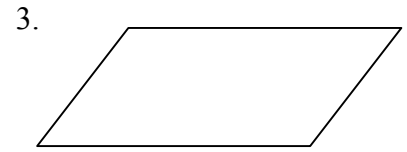
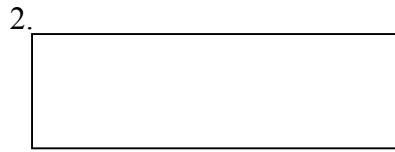
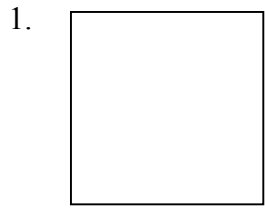
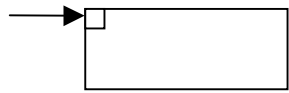
1. Classroom
2. Living room
3. Kitchen
4. Bedroom



## SECTION C

Copy each shape and mark each right angle using the correct symbol:

This symbol shows a right angled corner.



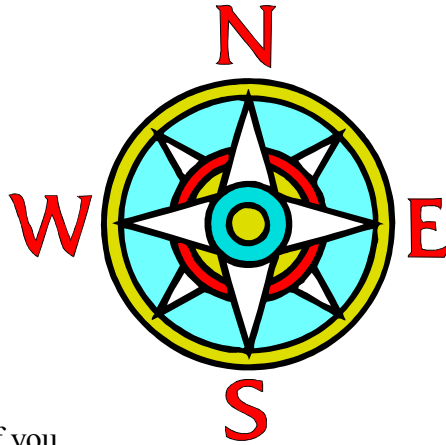
## SECTION D

Draw the diagrams from section C again. This time put them underneath one of the headings listed below:

The first one has been done for you.

All angles are right angles	Some angles are right angles	None of the angles are right angles

# Compass Points



## SECTION A

Which direction will you be facing if you.....

Start facing **NORTH** and turn:

- |                                     |                                     |                                      |
|-------------------------------------|-------------------------------------|--------------------------------------|
| 1. $\frac{1}{4}$ turn clockwise     | 2. $\frac{1}{2}$ turn clockwise     | 3. $\frac{3}{4}$ turn clockwise      |
| 4. $\frac{1}{4}$ turn anticlockwise | 5. $\frac{1}{2}$ turn anticlockwise | 6. $\frac{3}{4}$ turn anticlockwise? |

Start facing **SOUTH** and turn:

- |                                      |                                      |                                       |
|--------------------------------------|--------------------------------------|---------------------------------------|
| 7. $\frac{1}{4}$ turn clockwise      | 8. $\frac{1}{2}$ turn clockwise      | 9. $\frac{3}{4}$ turn clockwise       |
| 10. $\frac{1}{4}$ turn anticlockwise | 11. $\frac{1}{2}$ turn anticlockwise | 12. $\frac{3}{4}$ turn anticlockwise? |

Start facing **EAST** and turn:

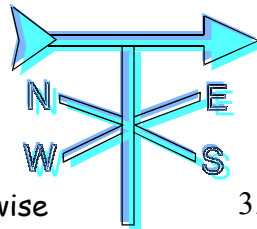
- |                                      |                                      |                                       |
|--------------------------------------|--------------------------------------|---------------------------------------|
| 13. $\frac{1}{4}$ turn clockwise     | 14. $\frac{1}{2}$ turn clockwise     | 15. $\frac{3}{4}$ turn clockwise      |
| 16. $\frac{1}{4}$ turn anticlockwise | 17. $\frac{1}{2}$ turn anticlockwise | 18. $\frac{3}{4}$ turn anticlockwise? |

Start facing **WEST** and turn:

- |                                      |                                      |                                       |
|--------------------------------------|--------------------------------------|---------------------------------------|
| 19. $\frac{1}{4}$ turn clockwise     | 20. $\frac{1}{2}$ turn clockwise     | 21. $\frac{3}{4}$ turn clockwise      |
| 22. $\frac{1}{4}$ turn anticlockwise | 23. $\frac{1}{2}$ turn anticlockwise | 24. $\frac{3}{4}$ turn anticlockwise? |

## SECTION B

What fraction of a turn is there from:



- |                          |                          |                           |
|--------------------------|--------------------------|---------------------------|
| 1. N to S clockwise      | 2. N to E clockwise      | 3. N to W clockwise       |
| 4. N to W anticlockwise  | 5. N to S anticlockwise  | 6. N to E anticlockwise   |
| 7. E to W clockwise      | 8. E to S clockwise      | 9. E to N clockwise       |
| 10. E to S anticlockwise | 11. E to N anticlockwise | 12. E to W anticlockwise  |
| 13. S to N clockwise     | 14. S to E clockwise     | 15. S to W clockwise      |
| 16. S to E anticlockwise | 17. S to N anticlockwise | 18. S to W anticlockwise  |
| 19. W to N clockwise     | 20. W to S clockwise     | 21. W to E clockwise      |
| 22. W to S anticlockwise | 23. W to E anticlockwise | 24. W to N anticlockwise? |

## SECTION C

Use the questions from Section B above, but this time say how many **right angles** you turn through.

# Tally Charts



1. Here are the results of a survey on the most popular pet.

Dog, Dog, Cat, Fish, Rabbit, Cat, Rabbit, Dog, Dog, Cat, Cat, Snake, Rabbit, Hamster, Fish, Dog, Cat, Cat, Fish, Cat, Rabbit, Dog, Gerbil, Dog, Fish, Dog, Cat, Fish, Rabbit, Rabbit, Cat, Rabbit, Dog, Dog, Cat, Cat, Rabbit, Dog, Gerbil, Dog, Fish, Rabbit, Hamster, Fish, Dog, Rabbit, Cat, Rabbit, Dog, Dog, Cat, Cat, Dog, Dog, Cat, Cat, Rabbit, Dog, Hamster, Fish, Snake, Rabbit.

Copy and complete this Tally Chart:

Pet	Tally	Frequency
Dog		
Cat		
Fish		
Rabbit		
Hamster		
Gerbil		
Snake		
<b>TOTAL</b>		

2. Use the information below, to draw a tally chart for the eye colour survey:

brown, brown, blue, brown, green, blue, hazel, blue, brown, brown, hazel, green, brown, blue, green, brown, hazel, brown, brown, blue, brown, blue, blue, green, brown, brown, blue, hazel, green, brown, brown, blue, blue, brown, blue, green, blue, green, blue, brown, brown, blue, hazel, blue, blue, brown, blue, blue, green, brown, brown, brown, blue, hazel, green.

3. Use the information below, to draw a tally chart for the hair colour survey:

Blonde, Brown, Brown, Black, Brown, Blonde, Ginger, Brown, Black, Brown, Blonde, Ginger, Blonde, Brown, Brown, Brown, Black, Black, Black, Brown, Brown, Blonde, Brown, Brown, Blonde, Brown, Ginger, Brown, Brown, Blonde, Brown, Black, Brown, Brown, Ginger, Brown, Blonde, Ginger, Black, Brown, Brown, Black, Brown, Brown, Blonde, Brown, Blonde, Black, Brown, Brown, Black.

4. Use the information below, to draw a tally chart for pupils' favourite lesson:

PE, Maths, English, Maths, Maths, PE, Art, Maths, PE, Science, PE, Maths, Maths, PE, English, Maths, Maths, Maths, English, PE, Maths, Maths, Science, PE, Maths, PE, PE, Maths, Maths, English, Science, Maths, Science, PE, Maths, PE, English, English, Maths, PE, Maths, Maths, English Art, PE, Art, Maths, Art, PE, Maths, Science, Art, PE, English.

5. Use the information below, to draw a tally chart for makes of car on the school car park:

Red, White, White, Red, Blue, Green, Blue, Black, Silver, Red, Blue, White, White, Blue, Silver, Black, Blue, Red, White, Red, White, Blue, Green, White, Red, Black, Red, Silver, White, Blue, Green, Black, Red, White, White, Red, Blue, Green, Blue, Black, Silver, Red, White, White, Red, Blue, Green, Blue, Black, Silver, Green, White, Red, Black, Red, Silver, White, Green, White, Red, Black, Red, Silver, White, Green, White, Red, Black, Red, Silver, White.



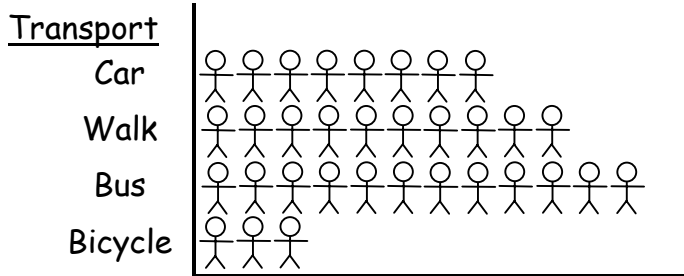
# Pictograms



## SECTION A

This pictogram shows how the pupils in 7B get to school.

= 1 pupil

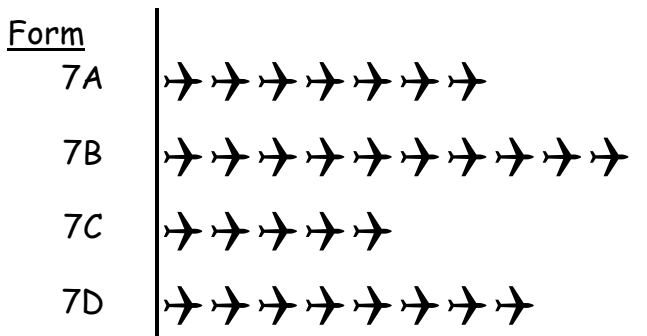


How many pupils travel to school by:

1. Car
2. Walking
3. Bus
4. Bicycle?
5. What is the most popular way of getting to school?
6. What is the least popular way of getting to school?
7. How many pupils were included in the survey?

This pictogram shows the number of pupils in each form that have travelled on a plane.

= 2 pupils

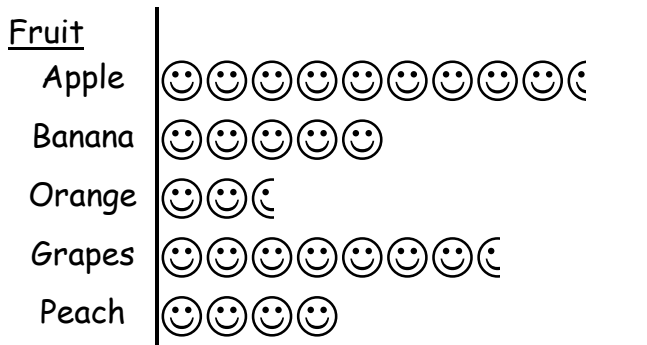


How many pupils have travelled on a plane in:

8. Form 7A
9. Form 7B
10. Form 7C
11. Form 7D?
12. Which form has the most pupils who have been on a plane?
13. Which form has the least pupils who have been on a plane?
14. How many pupils in all 4 forms have been on a plane?

This pictogram shows how many pupils prefer a type of fruit.

= 2 pupils

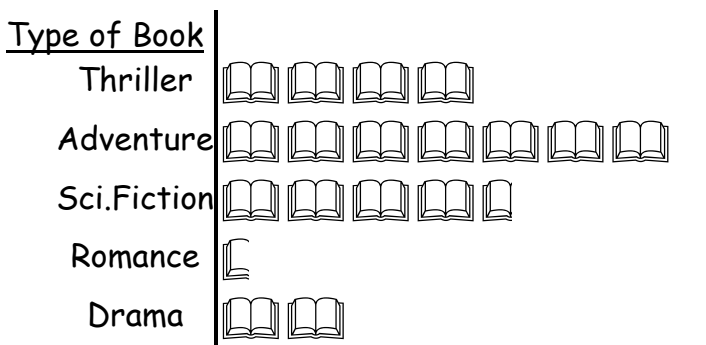


How many pupils prefer:

15. Apples
16. Bananas
17. Oranges
18. Grapes
19. Peaches?
20. Which fruit is most popular?
21. Which fruit is least popular?
22. How many pupils were included in this survey?

This pictogram shows the types of books pupils like to read:


= 2 pupils



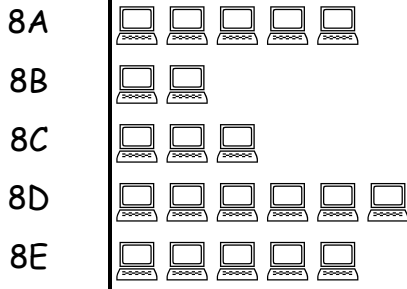
How many pupils prefer

23. Thrillers
24. Adventure
25. Sci.Fiction
26. Romance
27. Drama?
28. Which type of book is the most popular?
29. Which type of book is the least popular?
30. How many pupils took part in this survey?

This pictogram shows the number of pupils in each form that have a computer at home:

 = 5 pupils

Form



How many pupils have computers in

31. Form 8A    32. Form 8B    33. Form 8C

34. Form 8D    35. Form 8E?

36. Which form has the most pupils with computers?

37. Which form has the least pupils with computers?

38. How many pupils took part in this survey?

## **SECTION B**

Draw pictograms to show the information given in each of the following tables:


1. The number of letters delivered each day:

	Mon	Tue	Wed	Thu	Fri	Sat
Number of letters	6	10	2	4	8	3

Use a symbol like  to represent 1 letter.

2. The number of people who prefer certain drinks:

	Tea	Coffee	Coke	Lemonade	Orange	Water
Number of people	20	14	10	8	16	2

Use a symbol like  to represent 2 people.


3. The number of people who prefer a certain sport:

	Football	Netball	Rounders	Swimming	Golf	Cricket
Number of people	20	10	3	12	5	15

Use a symbol like  to represent 2 people.

4. The number of people who like a certain flavour of crisps:

	Plain	Salt+Vinegar	Cheese+Onion	Prawn Cocktail
Number of people	15	20	17	1

Use a symbol like  to represent 2 people.


5. The number of people who use their computers for different activities are:

	Homework	Email	Games	Letters
Number of people	24	13	21	5

Use a symbol like  to represent 2 people.

6. The number of people who prefer the following flavours of milk shakes:

	Strawberry	Banana	Chocolate	Vanilla
Number of people	30	25	35	50

Use a symbol like  to represent 5 people.

# Bar Charts



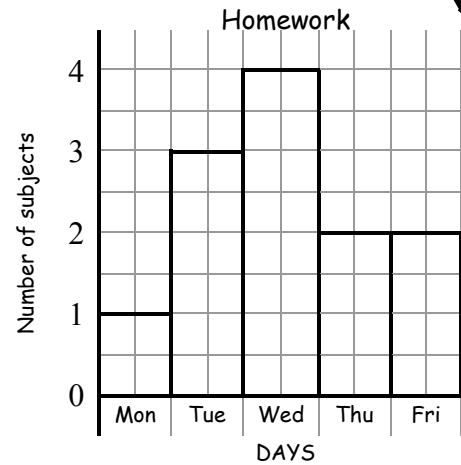
## SECTION A

Use the bar chart showing the number of subjects given as homework each night.

How many subjects are given on:

- |              |             |
|--------------|-------------|
| 1. Monday    | 2. Tuesday  |
| 3. Wednesday | 4. Thursday |
| 5. Friday?   |             |

6. Which day is the most homework given?
7. Which day is the least homework given?
8. How many homeworks are given in the week?

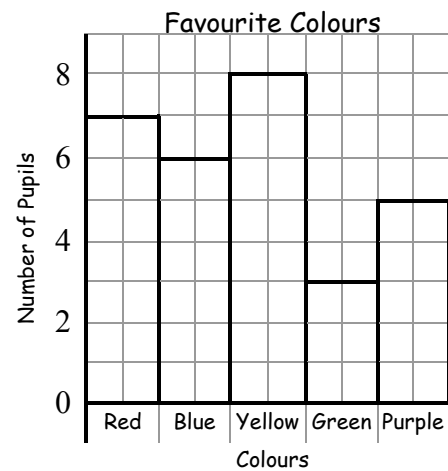


Use the bar chart showing some Y7 pupils favourite colours.

How many pupils like the colour:

- |             |           |
|-------------|-----------|
| 9. Red      | 10. Blue  |
| 11. Yellow  | 12. Green |
| 13. Purple? |           |

14. Which colour is the most popular?
15. Which colour is the least popular?
16. How many pupils were included in this survey?

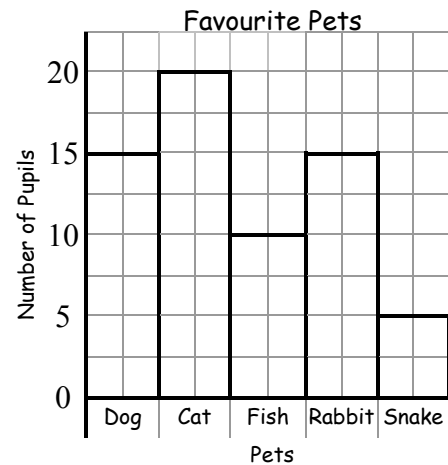


Use the bar chart showing the favourite pets of some Y8 pupils.

How many pupils favourite pet was a:

- |            |            |
|------------|------------|
| 17. Dog    | 18. Cat    |
| 19. Fish   | 20. Rabbit |
| 21. Snake? |            |

22. Which pet is the most popular?
23. Which pet is the least popular?
24. How many pupils were included in this survey?

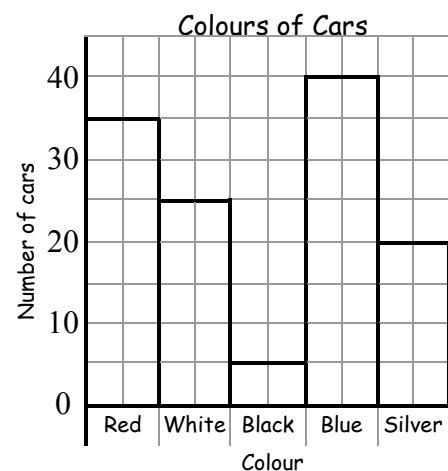


Use the bar chart showing the colours of cars seen outside a school.

How many cars seen were:

- |             |           |
|-------------|-----------|
| 25. Red     | 26. White |
| 27. Black   | 28. Blue  |
| 29. Silver? |           |

30. Which colour of car was seen the most often?
31. Which colour of car was seen the least?
32. How many cars were seen in this survey?



## **SECTION B**

Draw bar charts to show the information in each of the following tables:

1. The type of weather during a winter month:

	Rainy	Sunny	Foggy	Hail	Snow
Number of Days	5	2	6	7	10

2. The number of people who prefer certain drinks:

	Tea	Coffee	Coke	Lemonade	Orange	Water
Number of people	12	15	8	20	7	3

3. The number of people who prefer a certain sport:

	Football	Netball	Rounders	Swimming	Golf	Cricket
Number of people	25	15	30	35	5	20

4. The number of people who like these flavours of crisps:

	Plain	Salt&Vinegar	Cheese&Onion	Prawn Cocktail
Number of people	10	18	13	2

5. The number of people who use their computers for different activities are:

	Homework	E-mail	Games	Letters
Number of people	13	20	12	4

6. The number of people who prefer the following flavours of milk shakes:

	Strawberry	Banana	Chocolate	Vanilla
Number of people	10	35	20	50

7. The number of people who prefer to read a certain type of book:

	Detective	Romance	Comedy	Thriller	Space
Number of people	12	2	20	15	17

8. The number of people who go on holiday to the following destinations:

	Britain	Europe	America	Africa	Australia
Number of people	34	29	13	3	7

9. The number of children in a family:

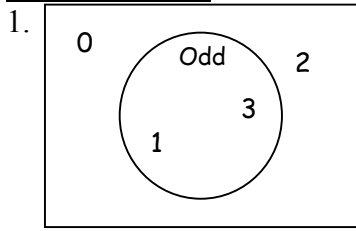
	0 children	1 child	2 children	3 children	4 children
Number of families	17	15	26	21	9

10. The number of people who like the following types of music:

	Pop	Rock	Jazz	Classical	Blues
Number of people	21	13	7	5	9

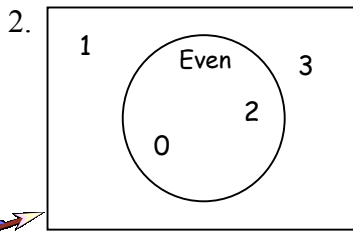
# VENN DIAGRAMS

## SECTION A



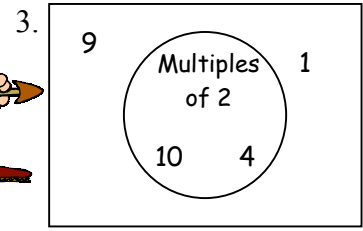
Put these numbers onto the diagram:

4, 5, 6, 7, 8, 9, 10



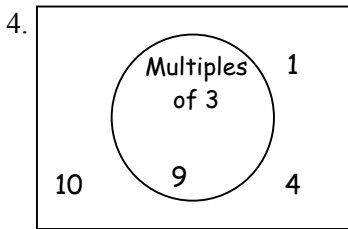
Put these numbers onto the diagram:

4, 5, 6, 7, 8, 9, 10



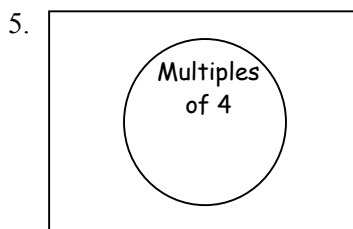
Put these numbers onto the diagram:

2, 3, 5, 6, 7, 8, 11

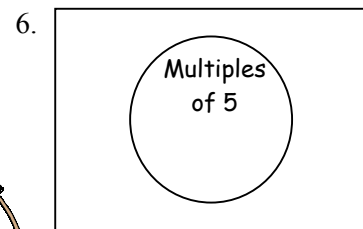


Put these numbers onto the diagram:

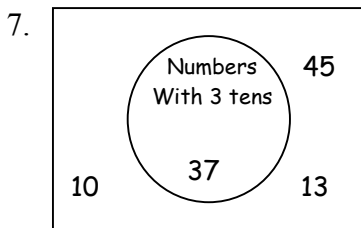
2, 3, 5, 6, 7, 8, 11



Put all the numbers from 1 - 20 inclusive onto the diagram.

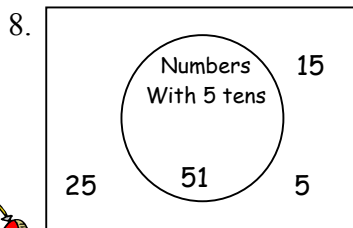
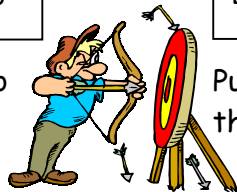


Put all the numbers from 1 - 30 inclusive onto the diagram.



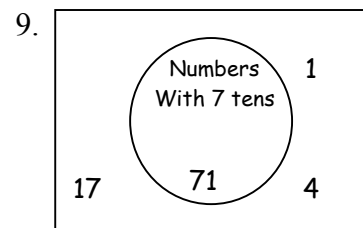
Put these numbers onto the diagram:

21, 23, 32, 36, 48



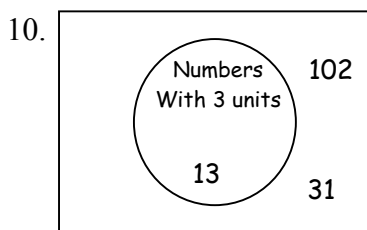
Put these numbers onto the diagram:

30, 35, 43, 54, 57, 65



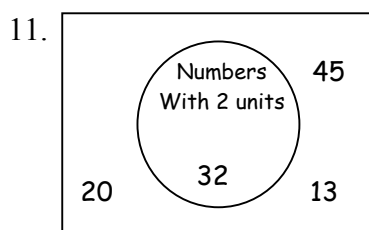
Put these numbers onto the diagram:

7, 27, 35, 72, 79, 87



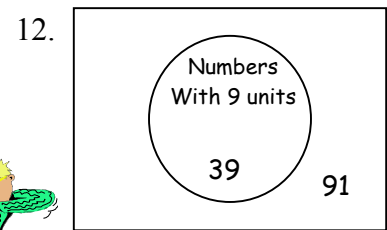
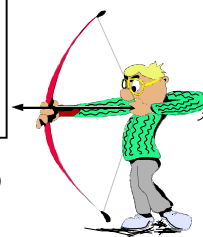
Put these numbers onto the diagram:

3, 30, 33, 43, 53, 55



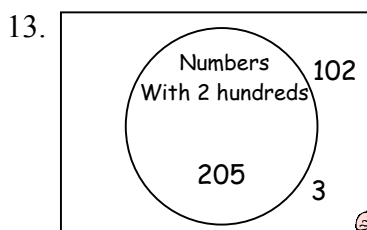
Put these numbers onto the diagram:

2, 12, 21, 42, 52, 53



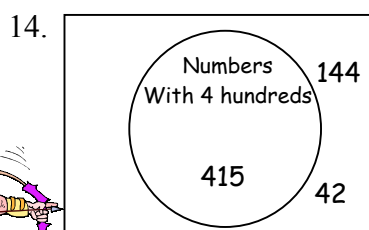
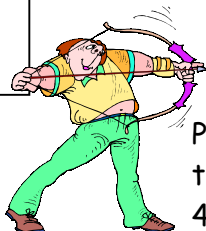
Put these numbers onto the diagram:

9, 19, 29, 51, 90, 99



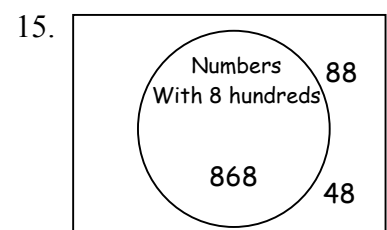
Put these numbers onto the diagram:

2, 12, 22, 202, 222, 322



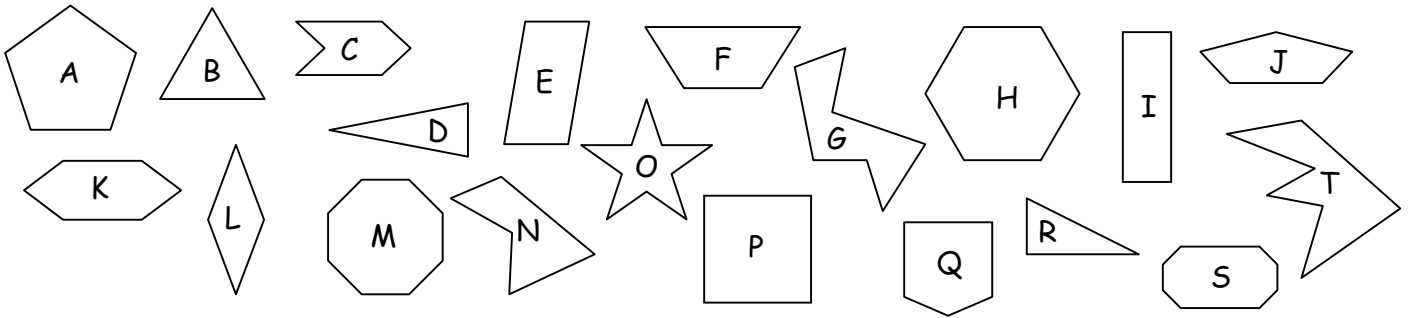
Put these numbers onto the diagram:

4, 44, 244, 407, 484, 544



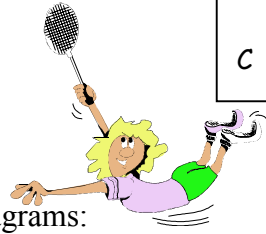
Put these numbers onto the diagram:

188, 488, 804, 872, 988



Copy and complete the following Venn Diagrams using the shapes above.

16. 17. 18.



### SECTION B

Use the shapes above to copy and complete the following Venn Diagrams:

1. 2. 3. 4.



- Explain the reason for shape P being put in both the quadrilateral and regular groups in Question 3.
- Explain the reason for shape B being put in both the triangle and regular groups in Question 4.

7. 8.



9. 10.





# POSITION AND DIRECTION

5									
4									
3									
2									
1									
	A	B	C	D	E				

## SECTION A

On this grid, the equilateral triangle is at B1.

What is the position of the:

- |                       |                        |
|-----------------------|------------------------|
| 1. Square             | 2. Circle              |
| 3. Rectangle          | 4. Regular Pentagon    |
| 5. Irregular Pentagon | 6. Rt. angled Triangle |
| 7. Isosceles Triangle | 8. Semi-circle         |
| 9. Regular Hexagon    | 10. Regular Octagon?   |

The semi-circle is **NORTH** of the regular octagon.

Which shape is **NORTH** of the :

- |                          |                     |
|--------------------------|---------------------|
| 11. Equilateral Triangle | 12. Regular Hexagon |
| 13. Irregular Pentagon   | 14. Rectangle?      |

Which shape is **SOUTH** of the:

- |                           |                        |
|---------------------------|------------------------|
| 15. Circle                | 16. Isosceles triangle |
| 17. Right Angled Triangle | 18. Semi-circle        |
| 19. Irregular Pentagon    | 20. Square?            |

## SECTION B

Use the grid opposite to decode these messages:

- (C3, A5, E2, C4, D2) (D4, D2) (A4, A1, D3)
- (D2, C5, C4, E3, E3, B3) (D4, D2)  
(B5, C2, D4, B3, B3, D4, A5, D3, E2)
- (C3, E1) (E2, E5, A5, C5, C4, E5, C2) (D4, D2)  
(E2, C4, E5) (B5, E5, D2, E2) (D4, D3)  
(E2, C4, E5) (C1, E3, C2, B3, D5)
- (D4) (B3, E3, B1, E5)  
(C3, A5, E2, C4, E5, C3, A5, E2, D4, C5, D2)
- (D3, A5, A1, B4, C4, E2, E1)  
(E5, B3, E5, A2, C4, A5, D3, E2, D2)  
(D2, B2, A1, D4, C2, E2) (C1, A5, E2, E5, C2)
- Write your own messages and code them using the grid opposite.

5	a	b	c	d	e				
4	f	g	h	i	j				
3	k	l	m	n	o				
2	p	q	r	s	t				
1	u	v	w	x	y				
	A	B	C	D	E				

Letter b is the first letter **EAST** of a. What is the first letter **EAST** of:

- |       |       |       |        |       |
|-------|-------|-------|--------|-------|
| 7. g  | 8. r  | 9. w  | 10. x  | 11. d |
| 12. f | 13. p | 14. u | 15. c? |       |

What is the first letter **WEST** of:












- |       |       |       |       |        |
|-------|-------|-------|-------|--------|
| 16. b | 17. r | 18. y | 19. j | 20. e  |
| 21. h | 22. l | 23. o | 24. s | 25. v? |

What is the first letter **NORTH** of:











- |       |       |       |       |        |
|-------|-------|-------|-------|--------|
| 26. j | 27. k | 28. m | 29. n | 30. q  |
| 31. t | 32. y | 33. f | 34. h | 35. r? |



# SECTION C

9	N ↑							
8								
7								
6	Maths Land ✕							
5								
4								
3								
2								
1								
	A	B	C	D	E	F	G	H

**Key**

-  Castle
-  Hospital
-  Park
-  Race track
-  Picnic Site
-  Railway Station
-  Tourist Information
-  Golf Course
-  Monument
-  Church

On the grid above, what is the position of the:

- |           |               |                    |                |                          |
|-----------|---------------|--------------------|----------------|--------------------------|
| 1. Church | 2. Castle     | 3. Monument        | 4. Hospital    | 5. Golf Course           |
| 6. Park   | 7. Race track | 8. Railway Station | 9. Picnic Site | 10. Tourist Information? |

The following places have been missed off the grid.

Put a cross in the correct place and label each one. The first one has been done for you.

- |                    |                   |                   |                  |                  |
|--------------------|-------------------|-------------------|------------------|------------------|
| 11. Maths Land: A6 | 12. Addon: E9     | 13. Timesland: C2 | 14. Multiway: H5 | 15. Pentaton: E1 |
| 16. Octaton: I9    | 17. Cube Land: F7 | 18. Clockway: I3  | 19. Northton: B8 | 20. Southton: G3 |



If you walk **NORTH**, what is the first place you get to, if you start at:

- |                     |                  |                |                     |                         |
|---------------------|------------------|----------------|---------------------|-------------------------|
| 21. The Golf Course | 22. The Monument | 23. Timesland  | 24. The Picnic Site | 25. The Railway Station |
| 26. Southton        | 27. The Hospital | 28. The Church | 29. Clockway        | 30. Pentaton?           |

If you walk **EAST**, what is the first place you get to, if you start at:

- |                     |                  |                |                     |                          |
|---------------------|------------------|----------------|---------------------|--------------------------|
| 31. The Golf Course | 32. The Monument | 33. Timesland  | 34. The Picnic Site | 35. Maths Land           |
| 36. Southton        | 37. Northton     | 38. The Castle | 39. Addon           | 40. Tourist Information? |

If you walk **WEST**, what is the first place you get to, if you start at:

- |              |                |                     |                  |                |
|--------------|----------------|---------------------|------------------|----------------|
| 41. Octaton  | 42. The Church | 43. Clockway        | 44. The Hospital | 45. Multiway   |
| 46. Southton | 47. The Park   | 48. Railway Station | 49. Addon        | 50. Cube Land? |

If you walk **SOUTH**, what is the first place you get to, if you start at:

- |                    |              |                |                     |                |
|--------------------|--------------|----------------|---------------------|----------------|
| 51. The Race Track | 52. Octaton  | 53. The Church | 54. The Picnic Site | 55. Maths Land |
| 56. Cube Land      | 57. Northton | 58. The Castle | 59. Addon           | 60. Multiway?  |

