

**1** Circle the smallest number in this list:

 -4 × 2 -2 + -5 (16 ÷ -4) –3 – 6

 **[1 mark]**

**2** Circle the value of 3.645 rounded to 1 decimal place:

 3.7 3.6 4 3.65

**[1 mark]**

**3** Circle the reflex angle:



**[1 mark]**

**4** Circle the multiple of 8:

 4 52 56 60

**[1 mark]**

**5** Here is a list of the names of five types of quadrilateral.

 Trapezium Parallelogram Square Rhombus Rectangle

**5 (a)** From the list, write down the names of two quadrilaterals which must have all four sides the same length.

**[1 mark]**

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| Answer  |  | & |

**5(b)** From the list, write down the name of the quadrilateral that has only one pair of parallel sides.

**[1 mark]**

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| Answer  |  |  |

**6** The probability of an event is shown by the cross (×) on the probability scale.



Write down an estimate for the probability of the event.

**[1 mark]**

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| Answer  |  |  |

**7** Complete this bill



**[3 marks]**

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**8** The table shows the number of TVs sold in a shop on each of five days.



David uses this information to draw the graph below.



Write down **three** things wrong with this graph.

**[3 marks]**

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**9** Increase $26\frac{1}{2}$ by $\frac{3}{4}$.

**[3 marks]**

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| Answer  |  |  |

**10** Here is a sequence of patterns made with counters.



**10 (a)**  Find an expression, in terms of *n*, for the number of counters in pattern number *n*.

**[2 marks]**

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| Answer  |  |  |

Bayo has 90 counters.

**10 (b)**  Can Bayo make a pattern in this sequence using all 90 of his counters?

You must show how you get your answer.

**[2 marks]**

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| Answer  |  |  |

**11** In a tin of baked beans,

weight of beans : weight of tomatoes : weight of other ingredients = 3 : 2 : 1

There are 150 g of tomatoes in the tin.

Work out the weight of the beans.

**[2 marks]**

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| Answer  |  |  |

**12**



*ABC* is a straight line.
*DEFG* is a straight line.
*AC* is parallel to *DG*.
*EF* = *BF*.
Angle *BEF* = 50°.

Work out the size of the angle marked *x*.
Give reasons for your answer.

**[4 marks]**

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| Answer  |  |  |

**13** Balena has a garden in the shape of a circle of radius 10 m.
He is going to cover the garden with grass seed to make a lawn.



Grass seed is sold in boxes.
Each box of grass seed will cover 46 m2 of garden.

Balena wants to cover all the garden with grass seed.

   Work out the number of boxes of grass seed Balena needs.

You must show your working.

**[4 marks]**

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| Answer  |  |  |

**14** 100 students had some homework.

42 of these students are boys.
8 of the 100 students did **not** do their homework.
53 of the girls did do their homework.

**14(a)** Use this information to complete the frequency tree.

**[3 marks]**



One of the girls is chosen at random.

**14(b)** Work out the probability that this girl did **not** do her homework.

**[2 marks]**

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| Answer  |  |  |

**15** The table gives information about the results of the matches a football team played.



Draw an accurate pie chart to show this information.

**[4 marks]**

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**16** In a sale, the price of a cooker is reduced by 50%
At the end of the sale, the sale price of the cooker is increased by 50%

Betty says,

"The cooker is now the same price as it was before the sale."

Is Betty correct?
Explain why.

**[2 marks]**

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**17** The formula $A=πr^{2}$ is rearranged to make *r* the subject. Circle the correct rearrangement.

**[1 mark]**

 $r=\sqrt{\frac{A}{π}}$ $r=\sqrt{\frac{π}{A}}$ $r= πA^{2}$ $r=Aπ^{2}$

**18** *y* is directly proportional to *x*. Circle the graph that shows this relationship.

**[1 mark]**



**19** Circle the reason that triangles *ABC* and *PQR* are congruent.

**[1 mark]**



 SSS SAS ASA RHS

**20** 1 kilogram ≈ 2.2 pounds

 1 pound = 16 ounces.

 Circle the number of ounces in a kilogram.

**[1 mark]**

 35.2 7.27 32.32 137.5

**21** Calculate the volume of the 3D shape below.



**[3 marks]**

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| Answer  |  |  |

**22** Linda recorded the temperature, in oC, at 7 am on each of 30 days.

 The table shows information about here results.



 Calculate an estimate for the mean temperature.

**[3 marks]**

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| Answer  |  |  |

**23**



*ABC* and *DE* are parallel lines.
*AEG* and *BEF* are straight lines.

Angle *AED* = 54°
Angle *FEG* = 70°

Work out the size of the angle marked *x*.
Give a reason for each stage of your working.

**[4 marks]**

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| Answer  |  |  |

**24 (a)** Complete the table of values for    $y=x^{2}-2$

**[2 marks]**



**24(b)** On the grid, draw the graph of  $y=x^{2}-2$ for values of *x* from -3 to 3

**[2 marks]**



**25** Gary drove from London to Sheffield. It took him 3 hours at an average speed of 80km/h.

Lyn drove from London to Sheffield.
She took 5 hours.

Assuming that Lyn
 drove along the same roads as Gary
    and did not take a break,

**25(a)** Work out Lyn's average speed from London to Sheffield.

**[3 marks]**

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| Answer  |  |  |

**25(b)** If Lyn did **not** drive along the same roads as Gary, explain how this could affect your answer to part (a).

**[1 mark]**

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