



1 Write in figures the number one hundred and twenty one thousand and forty two.

Answer ..... [1]

2 Write down the number of centimetres in  $2\frac{1}{2}$  metres.

Answer ..... cm [1]

3 Work out 72 cents as a percentage of 83 cents.

Answer ..... % [1]

4 There were 41 524 people at a football match.

(a) Write 41 524 correct to the nearest thousand.

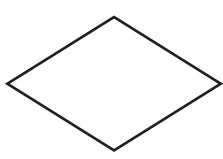
Answer(a) ..... [1]

(b) One quarter of the 41 524 people left before the end of the game.

Find the number of people who left before the end of the game.

Answer(b) ..... [1]

5 (a) Write down the order of rotational symmetry of this shape.



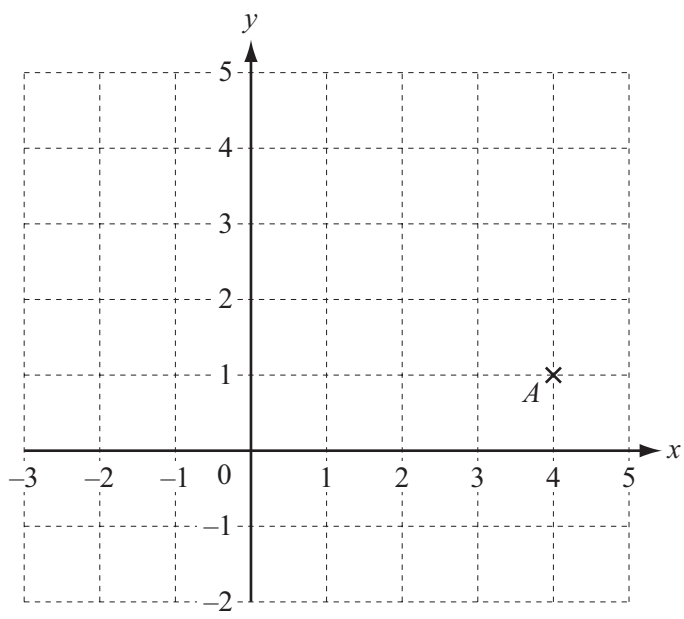
Answer(a) ..... [1]

(b) Draw the lines of symmetry on this shape.



[1]

6



(a) Write down the co-ordinates of point *A*.

*Answer(a)* (....., .....) [1]

(b) On the grid, plot the point (-1, 3). [1]

7 Simplify the following expression.

$$5a - 3b - 2a - b$$

*Answer* ..... [2]

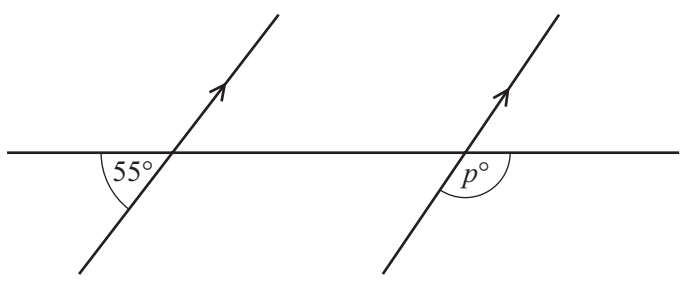
8 Calculate  $\frac{5.27 - 0.93}{4.89 - 4.07}$ .

Give your answer correct to 4 significant figures.

*Answer* ..... [2]

4

9



NOT TO  
SCALE

Find the value of  $p$ .

Answer  $p =$  ..... [2]

10 Calculate 17.5% of 44 kg.

Answer ..... kg [2]

11 Find the value of

(a)  $9^4$ ,

Answer(a) ..... [1]

(b)  $6^0$ .

Answer(b) ..... [1]

12 Solve the equation.

$$5 - 2x = 3x - 19$$

Answer  $x =$  ..... [2]

13 Yim knows one angle of an isosceles triangle is  $48^\circ$ .  
He says one of the other angles **must** be  $66^\circ$ .

Explain why Yim is wrong.

Answer .....  
..... [2]

14

**S** **P** **A** **C** **E** **S**

One of the 6 letters is taken at random.

(a) Write down the probability that the letter is S.

Answer(a) ..... [1]

(b) The letter is replaced and again a letter is taken at random.  
This is repeated 600 times.

How many times would you expect the letter to be S?

Answer(b) ..... [1]

15 The length,  $p$  cm, of a car is 440 cm, correct to the nearest 10 cm.

Complete the statement about  $p$ .

Answer .....  $\leq p <$  ..... [2]

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16

8 15 7 8 7 15 4 13 4 3 10 2 9 4 5

(a) Write down the mode.

Answer(a) ..... [1]

(b) Work out the median.

Answer(b) ..... [2]

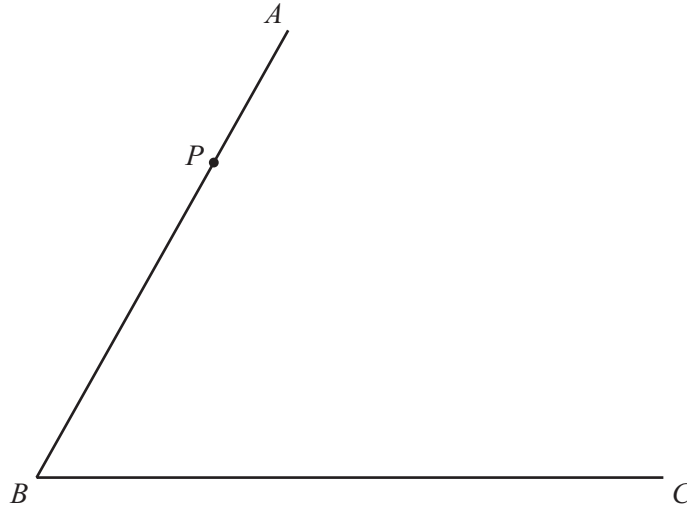
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17 Bruce invested \$800 at a rate of 3% per year simple interest.

Calculate the **total** amount he has after 6 years.

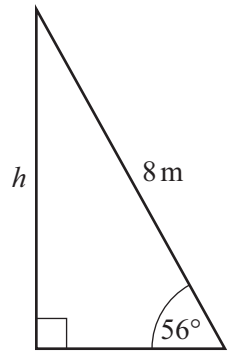
Answer \$ ..... [3]

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- (a) On the diagram above, draw a line perpendicular to the line  $AB$ , through the point  $P$ . [1]
  
  - (b) Using a straight edge and compasses only, construct the locus of points that are equidistant from  $A$  and from  $C$ . [2]
-

19 The diagram shows a ladder of length 8 m leaning against a vertical wall.



NOT TO SCALE

Use trigonometry to calculate  $h$ .  
Give your answer correct to 2 significant figures.

Answer  $h = \dots\dots\dots$  m [3]

20  $\mathbf{a} = \begin{pmatrix} 4 \\ 3 \end{pmatrix}$      $\mathbf{b} = \begin{pmatrix} -2 \\ 0 \end{pmatrix}$      $\mathbf{c} = \begin{pmatrix} 1 \\ -5 \end{pmatrix}$

Find

(a)  $4\mathbf{a}$ ,

Answer(a)  $\begin{pmatrix} \phantom{0} \\ \phantom{0} \end{pmatrix}$  [2]

(b)  $\mathbf{b} - \mathbf{c}$ .

Answer(b)  $\begin{pmatrix} \phantom{0} \\ \phantom{0} \end{pmatrix}$  [2]



21 Do not use a calculator in this question and show all the steps of your working.

Give each answer as a fraction in its lowest terms.

Work out.

(a)  $\frac{3}{4} - \frac{1}{12}$

Answer(a) ..... [2]

(b)  $2\frac{1}{2} \times \frac{4}{25}$

Answer(b) ..... [2]

22 (a) Factorise completely.

$6ab - 24bc$

Answer(a) ..... [2]

(b) Rearrange the following formula to make  $m$  the subject.

$j = \frac{m}{n} - k$

Answer(b)  $m =$  ..... [2]

10

23 (a) Here are the first four terms of a sequence.

27    23    19    15

(i) Write down the next term in the sequence.

Answer(a)(i) ..... [1]

(ii) Explain how you worked out your answer to part (a)(i).

Answer(a)(ii) ..... [1]

(b) The  $n$ th term of a different sequence is  $4n - 2$ .

Write down the first three terms of this sequence.

Answer(b) ..... , ..... , ..... [1]

(c) Here are the first four terms of another sequence.

-1    2    5    8

Write down the  $n$ th term of this sequence.

Answer(c) ..... [2]



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