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0580/11

October/November 2013

1 hour

Additional Materials: Electronic calculator Geometrical instruments
Tracing paper (optional)

The total of the marks for this paper is 56.

[Turn over

- 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.

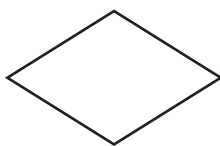
Answer(a) [1]

- (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.



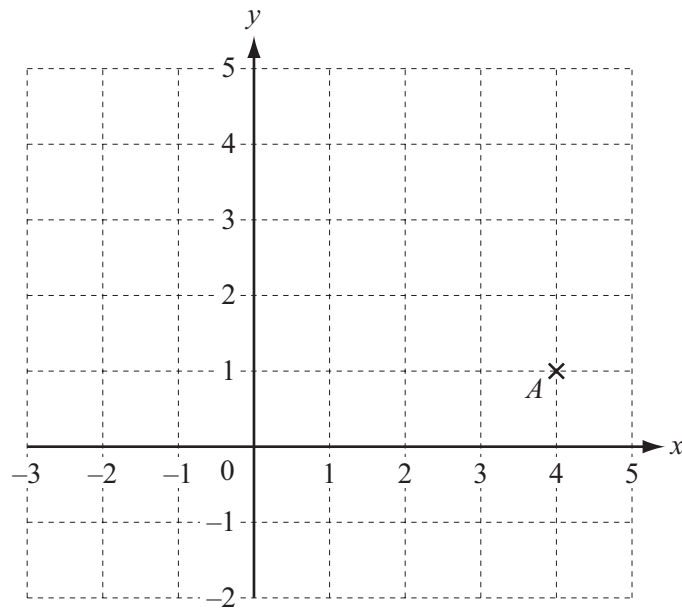
Answer(a) [1]

- (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.

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

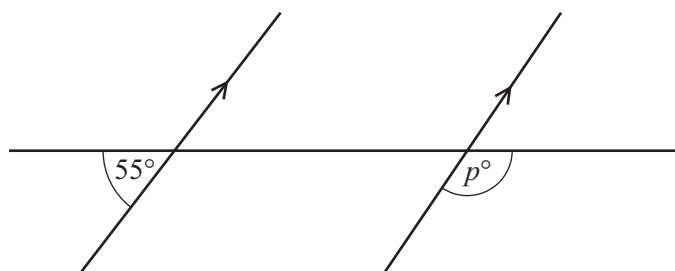
Answer [2]

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

Give your answer correct to 4 significant figures.

Answer [2]

9

NOT TO
SCALEFind 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]

For
Examiner's
Use

- 12 Solve the equation.

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

Answer $x =$ [2]

- 13 Yim knows one angle of an isosceles triangle is 48° .
He says one of the other angles **must** be 66° .

Explain why Yim is wrong.

Answer [2]

- 14

S	P	A	C	E	S
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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]

16

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

- (a) Write down the mode.

Answer(a) [1]

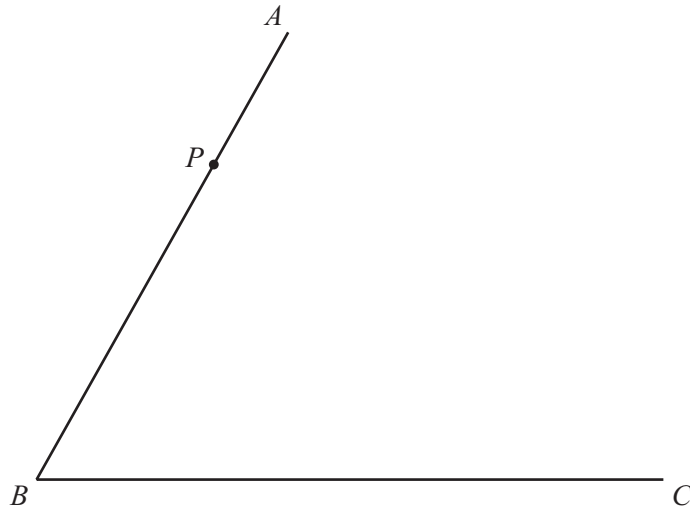
- (b) Work out the median.

Answer(b) [2]

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

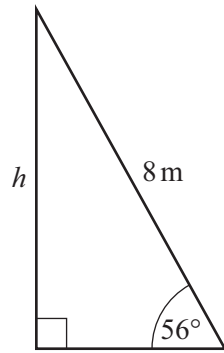
Calculate the **total** amount he has after 6 years.

Answer \$ [3]



- (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
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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) $\begin{pmatrix} \\ \end{pmatrix}$ [2]

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

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

- 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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