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0580/11

May/June 2018

1 hour

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

READ THESE INSTRUCTIONS FIRST

DO **NOT** WRITE IN ANY BARCODES.

For π , use either your calculator value or 3.142.

The total of the marks for this paper is 56.

This document consists of **10** printed pages and **2** blank pages.

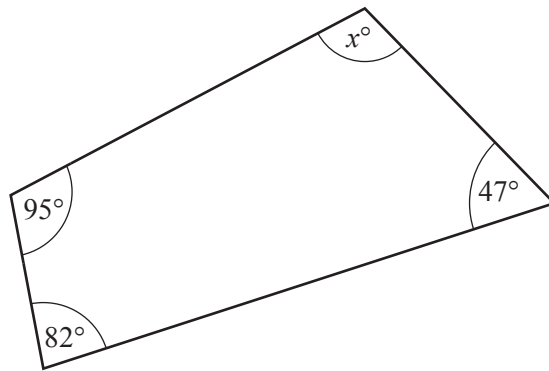
- 1 Write 4647 correct to the nearest 100.

..... [1]

- 2 Write 0.007 as a fraction.

..... [1]

- 3 The diagram shows a quadrilateral.



NOT TO
SCALE

Find the value of x .

$x =$ [1]

- 4 The n th term of a sequence is $5n - 3$.

Write down the first three terms of the sequence.

.....,, [1]

- 5 (a) Write 0.002 68 correct to 2 significant figures.

..... [1]

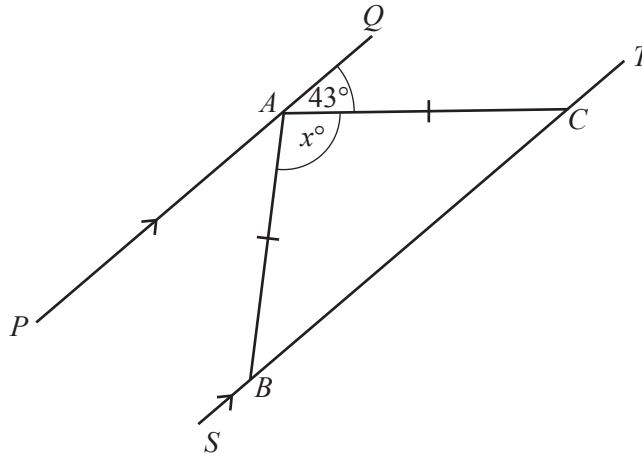
- (b) Write 0.000 038 7 in standard form.

..... [1]

- 6 Find the value of $7x + 3y$ when $x = 12$ and $y = -6$.

..... [2]

7



NOT TO
SCALE

The diagram shows two parallel lines PAQ and $SBCT$.
 $AB = AC$ and angle $QAC = 43^\circ$.

Find the value of x .

$x =$ [2]

- 8 Solve the equation $8x - 5 = 7$.

$x =$ [2]

- 9 (a) Change 6.54 kilometres into metres.

..... m [1]

- (b) Change 7850 cm^3 into litres.

..... litres [1]

- 10 The height, h metres, of a boy is 1.72 m, correct to the nearest centimetre.

Complete this statement about the value of h .

..... $\leq h <$ [2]

- 11 Expand and simplify.

$$6(2y - 3) - 5(y + 1)$$

..... [2]

12

$$\mathbf{g} = \begin{pmatrix} 2 \\ 5 \end{pmatrix} \quad \mathbf{h} = \begin{pmatrix} -3 \\ 4 \end{pmatrix}$$

Write as a single vector

- (a) $\mathbf{g} + \mathbf{h}$,

$\begin{pmatrix} \\ \end{pmatrix}$ [1]

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

$\begin{pmatrix} \\ \end{pmatrix}$ [1]

- 13 Work out the lowest common multiple (LCM) of 18 and 21.

..... [2]

- 14 Work out the size of one exterior angle of a regular octagon.

..... [2]

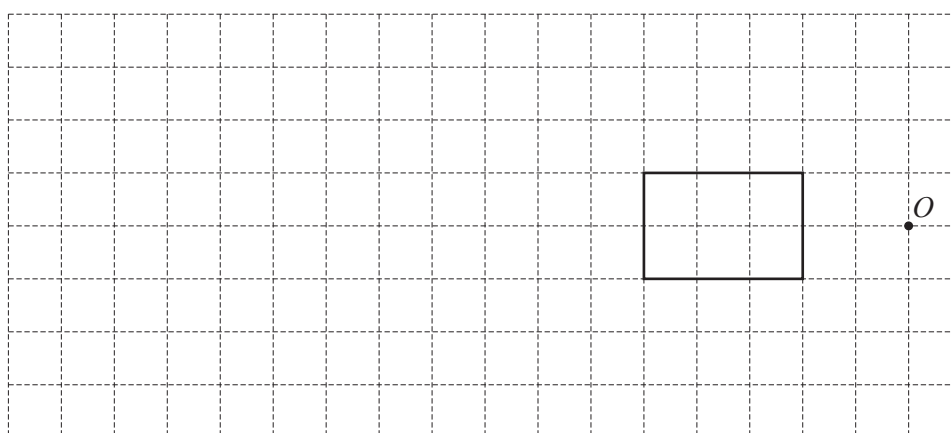
- 15 (a) Calculate $\sqrt{2.38 + 6.4^2}$, writing down your full calculator display.

..... [1]

- (b) Write your answer to **part (a)** correct to 4 decimal places.

..... [1]

- 16 Enlarge the rectangle using a scale factor of 3 and centre of enlargement O .



[2]

- 17 (a) A box contains 3 blue pens, 4 red pens and 8 green pens only.
A pen is chosen at random from the box.

Find the probability that this pen is green.

..... [1]

- (b) A cube has only one of its six faces painted yellow.
This cube is rolled 240 times.

Work out the expected number of times that it lands on the yellow face.

..... [1]

- 18 (a) Simplify.

$$(x^3)^4$$

..... [1]

- (b) $4^w = \frac{1}{16}$

Find the value of w .

$w =$ [1]

- 19 π 3^{-2} $3\frac{4}{7}$ 33.3% $\sqrt{3}$ 0.3 3^{999}

From this list, write down the two numbers that are irrational.

..... , [2]

- 20 (a) Here is a description of a quadrilateral.

It has 4 right angles.

It has 2 lines of symmetry.

It has rotational symmetry of order 2.

Write down the mathematical name of this quadrilateral.

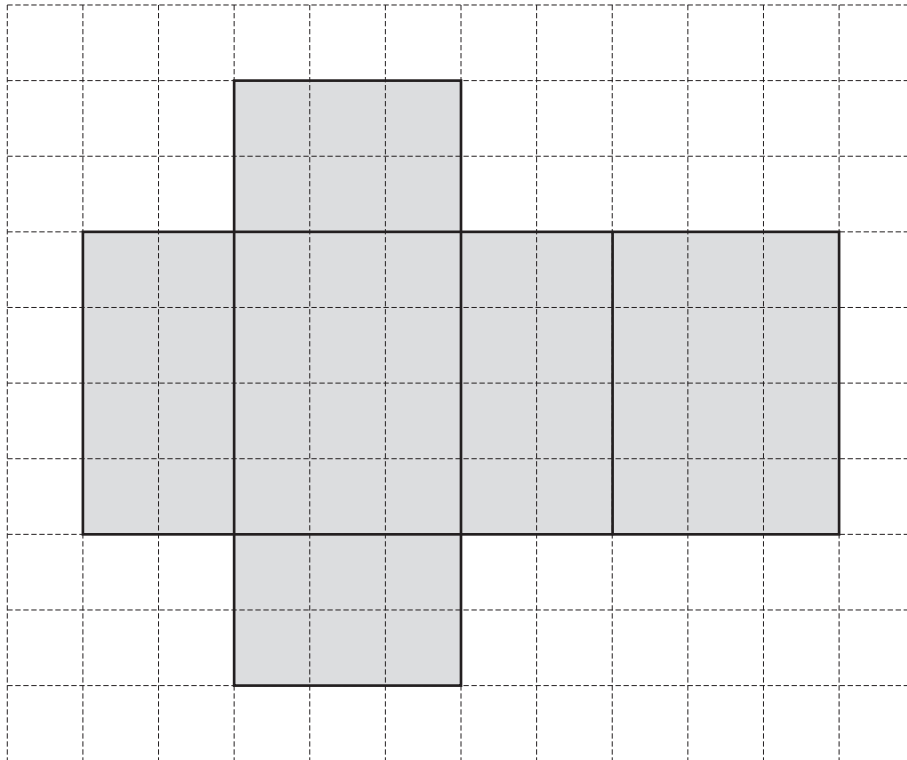
..... [1]

- (b) Write down two geometrical properties of a parallelogram.

1.

2. [2]

- 21 The net of a solid is drawn on a 1 cm^2 grid.



- (a) Write down the name of the solid made from this net.

..... [1]

- (b) Work out the volume of this solid.

..... cm^3 [2]

22 Factorise completely.

(a) $10 + 16w$

..... [1]

(b) $12tx - 8t^2$

..... [2]

23 **Without using your calculator**, work out $1\frac{3}{4} \times \frac{6}{35}$.

You must show all your working and give your answer as a fraction in its simplest form.

..... [3]

- 24** Solve the simultaneous equations.
You must show all your working.

$$\begin{aligned}3x + 10y &= 106 \\5x - 4y &= 1\end{aligned}$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots [4]$$

- 25** 40 people were asked how many times they visited the cinema in one month.
The table shows the results.

Number of cinema visits	0	1	2	3	4	5	6	7
Frequency	5	5	6	6	7	3	6	2

- (a) (i)** Find the mode.

..... [1]

- (ii)** Calculate the mean.

..... [3]

- (b)** Omar wants to show the information from the table in a pie chart.

Calculate the sector angle for the people who visited the cinema 5 times.

..... [2]

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