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0580/12

February/March 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 **8** printed pages.

- 1 Write $\frac{2}{5}$ as a percentage.

.....% [1]

- 2 Write these numbers in order, starting with the smallest.

0.55 $\frac{6}{11}$ $54\frac{1}{2}\%$

..... < < [1]
smallest

- 3 “We eat more ice cream as the temperature rises.”

What type of correlation is this?

..... [1]

- 4 The probability that it rains tomorrow is 0.35 .

Work out the probability that it does not rain tomorrow.

..... [1]

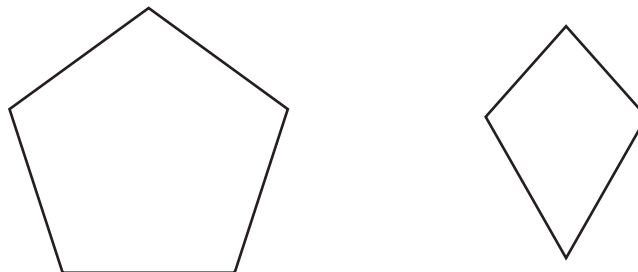
- 5 Write 0.000 052 3 in standard form.

..... [1]

- 6 Write 6.8167 correct to 3 significant figures.

..... [1]

7



The diagram shows a regular pentagon and a kite.

Complete the following statements.

(a) The regular pentagon has lines of symmetry. [1]

(b) The kite has rotational symmetry of order [1]

- 8 Divide 120 in the ratio 1 : 2.

..... : [2]

- 9 (a) Calculate $\sqrt[3]{-4.3 \times 6.7^2}$ and write down all the figures shown on your calculator.

..... [1]

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

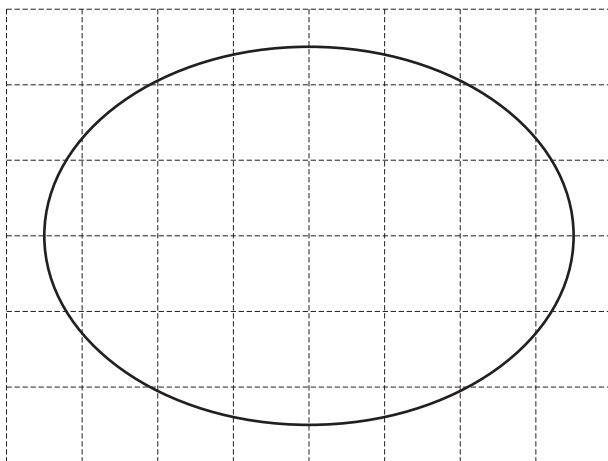
..... [1]

- 10 Insert one pair of brackets in each of the following to make the statements correct.

(a) $5 + 3 \times 10 - 1 = 32$ [1]

(b) $3 \times 2 - 4 - 7 = 9$ [1]

11



Find an estimate for the area of the shape drawn on this 1 cm^2 grid.

..... cm^2 [2]

- 12 (a) Find the value of $(\sqrt{25})^2$.

..... [1]

- (b) Simplify $(x^5)^2$.

..... [1]

- 13 Find the lowest common multiple (LCM) of 28 and 35.

..... [2]

- 14 Factorise completely.

$$6d^2e - 9e^2$$

..... [2]

- 15 The length, l metres, of a garden is 78.5 metres, correct to the nearest half metre.

Complete this statement about the value of l .

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

- 16 Neelum hires a machine to clean carpets.

It costs \$25 to hire the machine for the first day and \$9 for each extra day after the first day.

Neelum pays a total of \$88 to hire the machine.

Work out the **total** number of days she hires the machine for.

..... [3]

- 17 Dev makes 600 cakes.
18% of the 600 cakes go to a hotel and $\frac{2}{3}$ of the 600 cakes go to a supermarket.

Calculate how many cakes he has left.

..... [3]

- 18 Tomas borrows \$5000 for 3 years at a rate of 2.5% per year compound interest.
He pays back the whole amount, with interest, at the end of 3 years.

Calculate the total amount of money he pays back at the end of the 3 years.

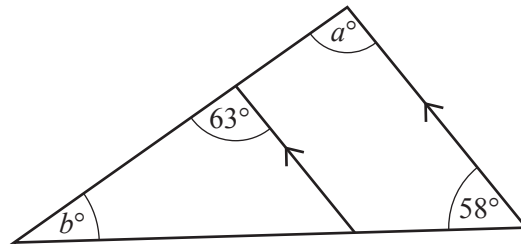
\$..... [3]

- 19 **Without using your calculator**, work out $\frac{7}{8} + \frac{1}{6}$.

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

..... [3]

20

NOT TO
SCALE

Complete the statements.

 $a = \dots\dots\dots$ because $\dots\dots\dots$ $\dots\dots\dots$ $b = \dots\dots\dots$ because $\dots\dots\dots$ $\dots\dots\dots$ [4]

- 21 (a) In the space below, draw a circle with diameter 7 cm.

[1]

- (b) On your diagram, draw a chord.

[1]

- (c) Show that the circumference of the circle is 21.99 cm, correct to 2 decimal places.

[2]

- 22 On the internet, Pranay sees a grey jacket for 165 euros (€) and a blue jacket for \$180.

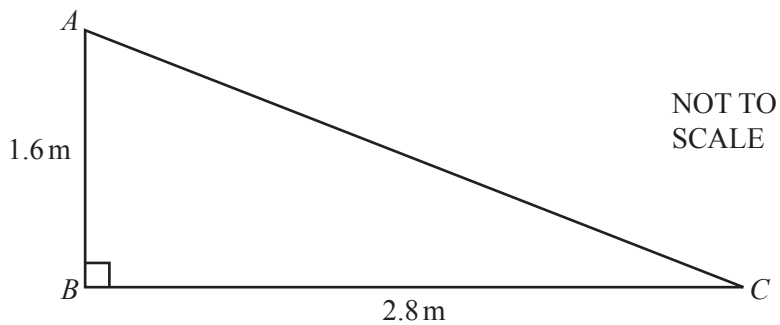
These are the exchange rates.

$$\begin{aligned}\text{€}1 &= 76.05 \text{ rupees} \\ 1 \text{ rupee} &= \$0.0152\end{aligned}$$

Work out which jacket is the cheapest and by how many rupees.

The jacket is cheapest by rupees [4]

23



- (a) Calculate AC .

$$AC = \dots\dots\dots \text{ m [2]}$$

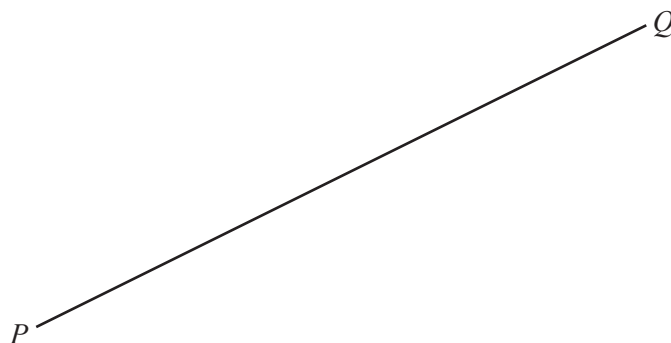
- (b) Calculate the size of angle BAC .

$$\text{Angle } BAC = \dots\dots\dots [2]$$

Question 24 is printed on the next page.

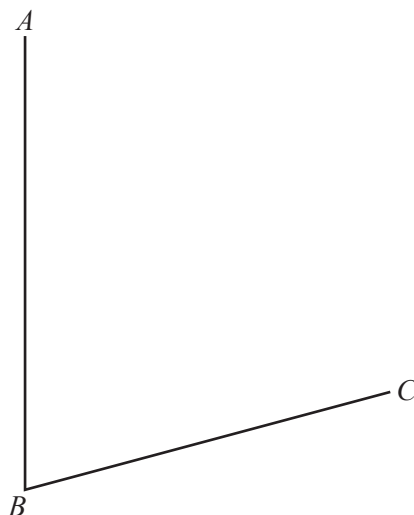
24 In this question, **use a straight edge and compasses only** and show all your construction arcs.

(a) Construct the perpendicular bisector of PQ .



[2]

(b) Construct the bisector of angle ABC .



[2]

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