

CANDIDATE  
NAME

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CENTRE  
NUMBER

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CANDIDATE  
NUMBER

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**MATHEMATICS**

**0580/12**

Paper 1 (Core)

**February/March 2018**

**1 hour**

Candidates answer on the Question Paper.

Additional Materials:      Electronic calculator  
   Tracing paper (optional)

Geometrical instruments

**READ THESE INSTRUCTIONS FIRST**

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams or graphs.

Do not use staples, paper clips, glue or correction fluid.

**DO NOT WRITE IN ANY BARCODES.**

Answer **all** questions.

If working is needed for any question it must be shown below that question.

Electronic calculators should be used.

If the degree of accuracy is not specified in the question, and if the answer is not exact, give the answer to three significant figures. Give answers in degrees to one decimal place.

For  $\pi$ , use either your calculator value or 3.142.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [ ] at the end of each question or part question.

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]

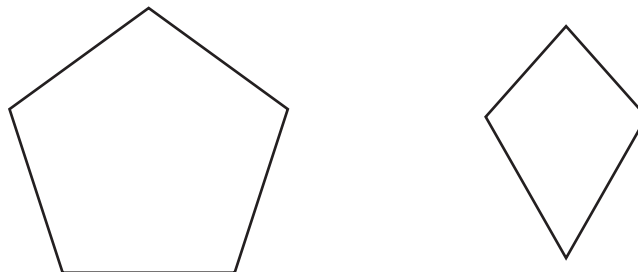
5 Write 0.000 052 3 in standard form.

..... [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.

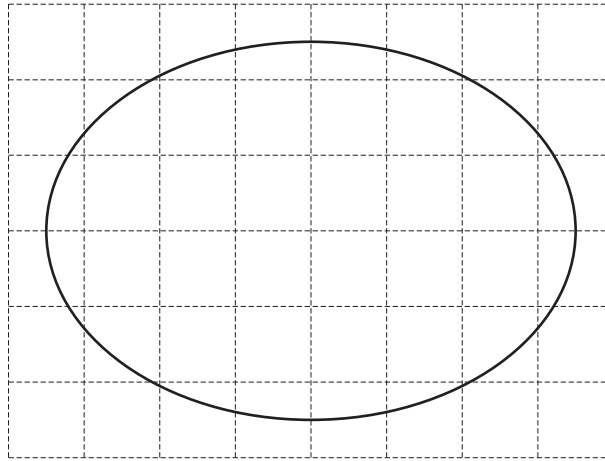
..... [1]

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<sup>2</sup> grid.

..... cm<sup>2</sup> [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.

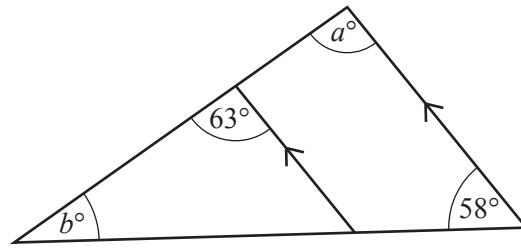
\$..... [3]

- 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.

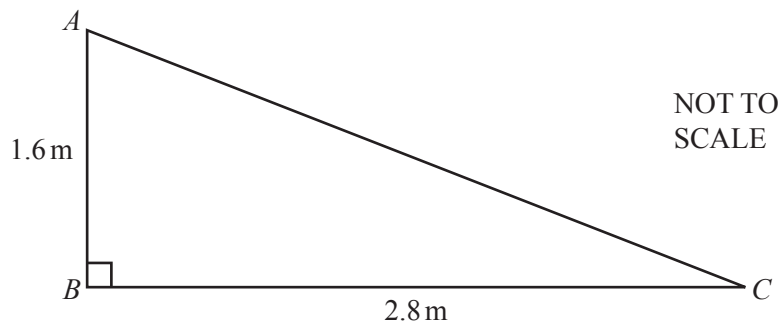
These are the exchange rates.

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

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

The ..... jacket is cheapest by ..... rupees [4]

23



- (a) Calculate  $AC$ .

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

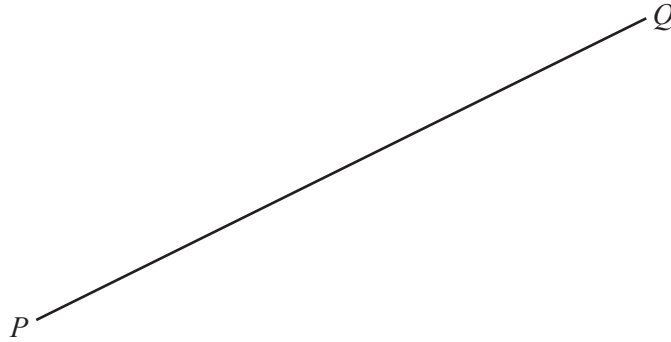
- (b) Calculate the size of angle  $BAC$ .

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

Question 24 is printed on the next page.

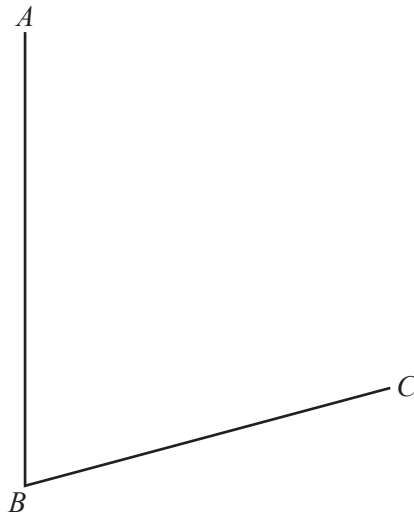
24 In this question, **use a straight edge and compasses only** and show all your construction arcs.

(a) Construct the perpendicular bisector of  $PQ$ .



[2]

(b) Construct the bisector of angle  $ABC$ .



[2]

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