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0580/11

May/June 2019

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 **11** printed pages and **1** blank page.

- 1 Write $\frac{3}{4}$ as a decimal.

..... [1]

- 2 Work out \$1.20 as a percentage of \$16.

.....% [1]

- 3 Factorise $5y - 6py$.

..... [1]

- 4 A bag contains green balls and red balls only.
A ball is taken at random from the bag.
The probability of taking a green ball is 0.38 .

Write down the probability of taking

- (a) a red ball,

..... [1]

- (b) a blue ball.

..... [1]

- 5 (a) On Monday the temperature at midday is 4°C and the temperature at midnight is -3°C .

Work out the difference between these two temperatures.

..... $^{\circ}\text{C}$ [1]

- (b) On Wednesday the temperature at midday is -1°C .
By 7 pm the temperature has fallen by 4°C .

Work out the temperature at 7 pm.

..... $^{\circ}\text{C}$ [1]

- 6 The volume of a cuboid is 180 cm^3 .
The base is a square of side length 6 cm.

Calculate the height of this cuboid.

..... cm [2]

- 7 Write the following numbers in standard form.

- (a) 640 000

..... [1]

- (b) 0.0006

..... [1]

8 Work out.

(a) $\begin{pmatrix} 4 \\ -2 \end{pmatrix} - \begin{pmatrix} 1 \\ 5 \end{pmatrix}$

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

(b) $6\begin{pmatrix} 3 \\ 0 \end{pmatrix}$

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

9 Asif and Ben share \$2100 in the ratio Asif : Ben = 3 : 7.

Work out how much Asif receives.

\$ [2]

10 The length of a truck, L metres, is 8.2 m, correct to 1 decimal place.

Complete this statement about the value of L .

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

11 Simplify.

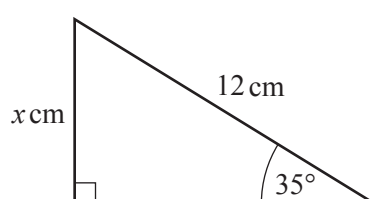
(a) $t^{21} \div t^7$

..... [1]

(b) $(u^5)^5$

..... [1]

12



NOT TO
SCALE

The diagram shows a right-angled triangle.

Calculate the value of x .

$x =$ [2]

13

$$p = \frac{1.6 + 9.6^2}{5.9 - 4.3}$$

- (a) By writing each number correct to 1 significant figure, work out an estimate for p .
You must show all your working.

..... [2]

- (b) Calculate the exact value of p .

..... [1]

14 27 28 29 30 31 32 33

From the list of numbers, write down

(a) a multiple of 7,

..... [1]

(b) a cube number,

..... [1]

(c) a prime number.

..... [1]

15 **Without using a calculator**, work out $\frac{5}{6} + \frac{2}{3}$.

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

..... [3]

16 These are the first four terms of a sequence.

5 8 11 14

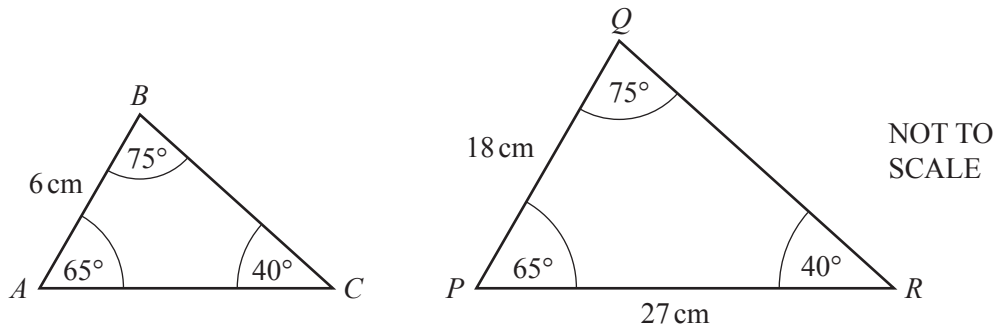
(a) Write down the next term.

..... [1]

(b) Find an expression, in terms of n , for the n th term.

..... [2]

17



- (a) Explain why triangle ABC and triangle PQR are similar.

.....

..... [1]

- (b) Find AC .

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

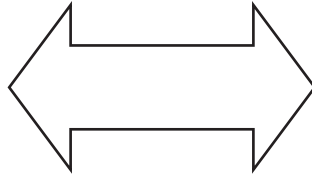
- 18 A car travels at a constant speed of 20 m/s .

Work out the time it takes for the car to travel 10 km .
Give your answer in minutes and seconds.

..... minutes seconds [3]

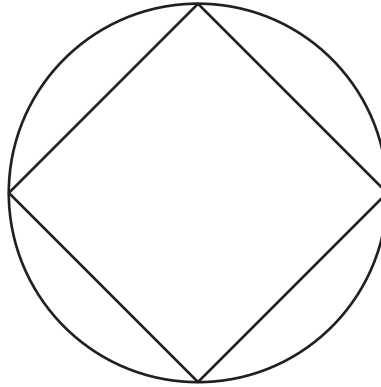
19 (a) On each shape, draw all the lines of symmetry.

(i)



[1]

(ii)



[2]

(b) Write down the name of a quadrilateral that has

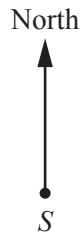
- rotational symmetry of order 2
- and
- exactly two lines of symmetry.

..... [1]

- 20 (a) Change 3670 centimetres to metres.

..... m [1]

- (b) The scale drawing shows the positions of town *S* and town *T*.
The scale is 1 centimetre represents 15 kilometres.



Scale: 1 cm to 15 km

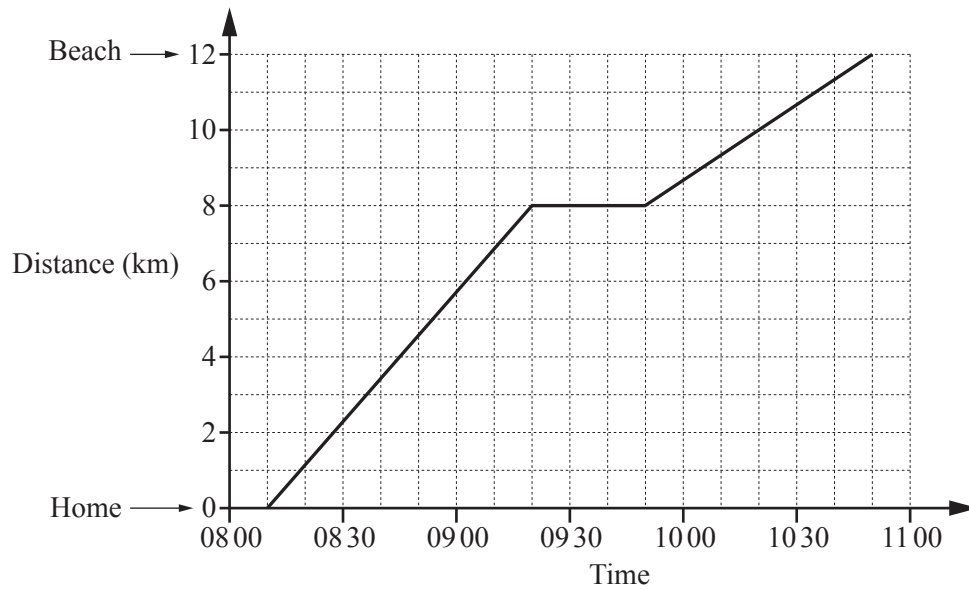
- (i) Find the actual distance between these two towns.

..... km [2]

- (ii) Measure the bearing of town *T* from town *S*.

..... [1]

21 The travel graph shows Michael's journey from his home to the beach.



(a) At what time did he start his journey?

..... [1]

(b) On the journey he stopped for a rest.

(i) Find the distance he was from home when he stopped for a rest.

..... km [1]

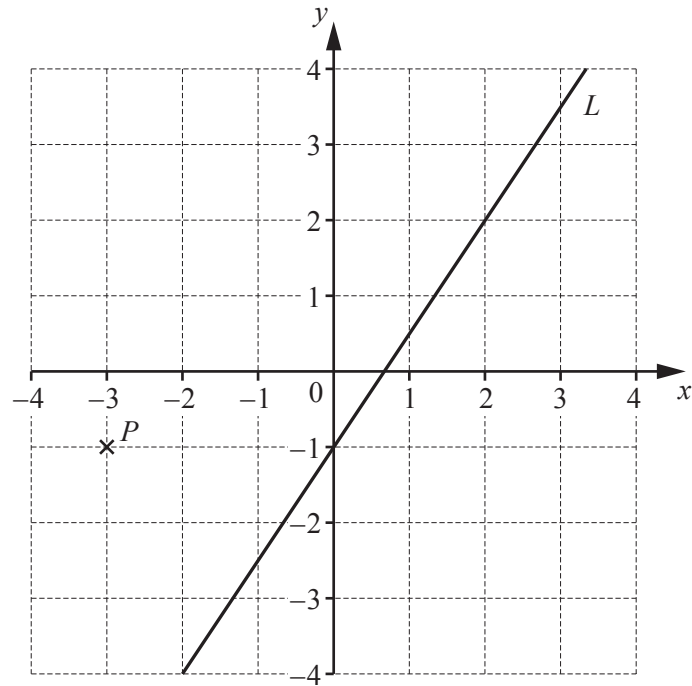
(ii) For how many minutes did he stop?

..... min [1]

(c) Explain how the graph shows that Michael travelled faster before he stopped than after he stopped.

..... [1]

- 22 The diagram shows a point P and a line L .



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

(.....,) [1]

- (b) Find the gradient of line L .

..... [2]

- (c) Write down the equation of line L in the form $y = mx + c$.

$y =$ [2]

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