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0580/13

October/November 2016

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.

The syllabus is approved for use in England, Wales and Northern Ireland as a Cambridge International Level 1/Level 2 Certificate.

This document consists of **12** printed pages.

- 1 Write in figures the number five thousand and thirty four.

.....[1]

- 2 Work out.
 $-2 + 7 - 8$

.....[1]

- 3 $V = 4p^2$
 Find V when $p = 3$.

$V =$ [1]

- 4 Simplify.
 $n^2 \times n^5$

.....[1]

- 5 The mass, m kg, of a car is 948 kg, correct to the nearest kilogram.
 Complete the statement about the value of m .

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

- 6 Write in standard form.

(a) 2 470 000

.....[1]

(b) 0.0079

.....[1]

- 7 Write these in order of size, smallest first.

0.6^3

0.22

$\sqrt{0.09}$

0.4^2

..... < < < [2]
smallest

- 8 James is an animal doctor.

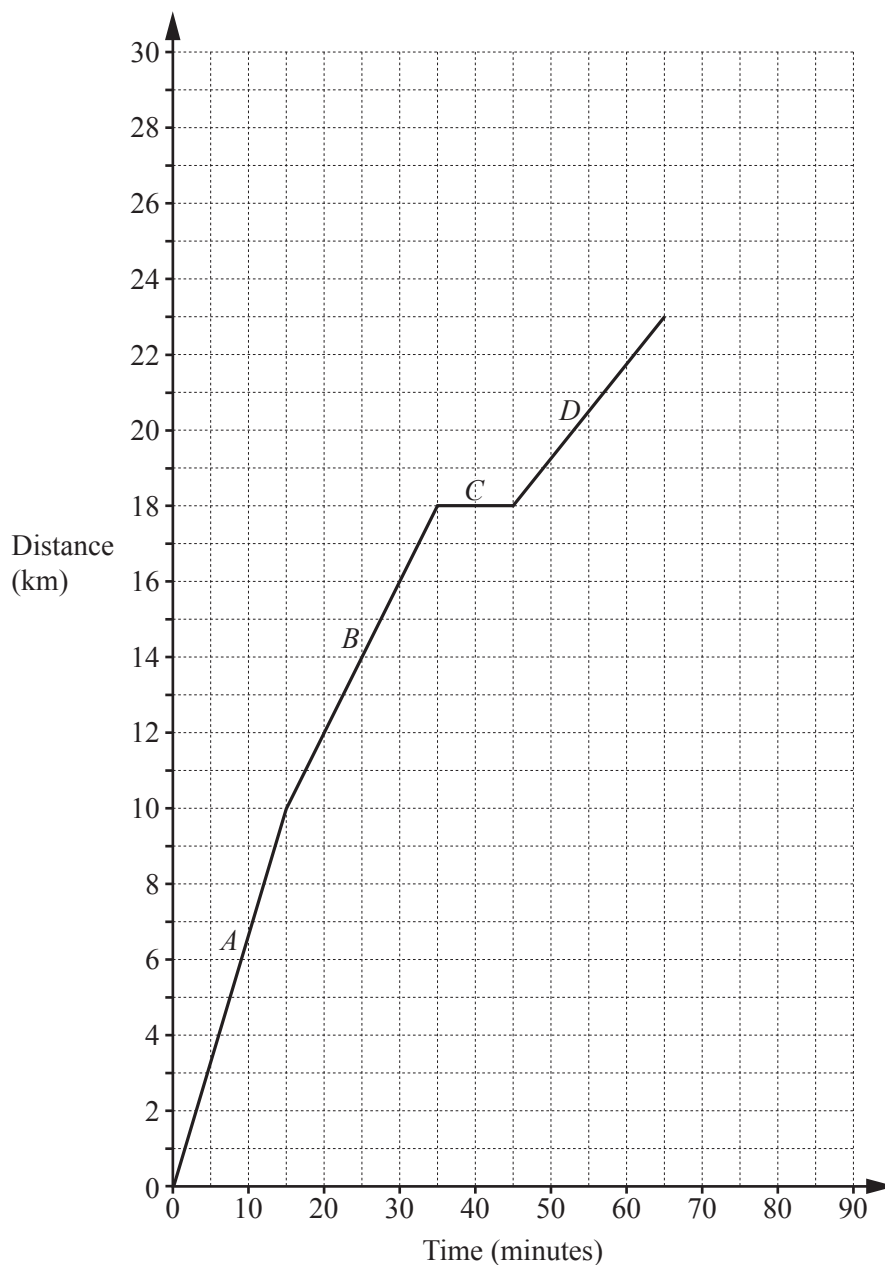
The table shows some information about the cats he saw in one week.

Day	Monday	Tuesday	Wednesday	Thursday	Friday
Number of cats seen	2	4	1	3	2
Mean mass of a cat (kg)	1.9	0.9	2.1	1.8	2

One of the cats James saw had a mass of 4 kg.

On which day did he see this cat?

..... [2]



The diagram shows the distance-time graph for the first 65 minutes of a bicycle journey.

- (a) There are four different parts to the journey labelled *A*, *B*, *C* and *D*.

Write down the part of the journey with the fastest speed.

..... [1]

- (b) After the first 65 minutes the bicycle travels at a constant speed of 20 km/h for 15 minutes.

Draw this part of the journey on the diagram.

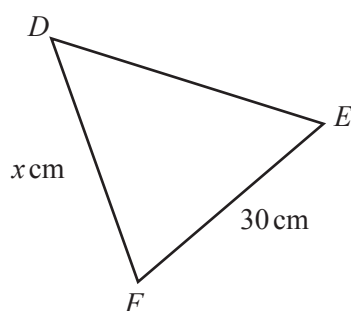
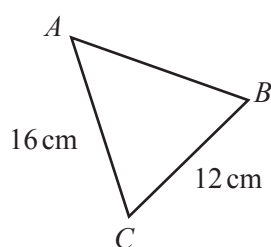
[1]

- 10 Without using a calculator, work out $\frac{3}{5} + \frac{1}{6}$.

Write down all the steps of your working and give your answer as a fraction in its simplest form.

..... [2]

- 11 Triangles ABC and DEF are similar.



NOT TO
SCALE

Find the value of x .

$x =$ [2]

- 12 (a) Change 0.183 metres to centimetres.

..... cm [1]

- (b) Change 12 800 square millimetres to square centimetres.

..... cm^2 [1]

13 Here are the heights, in centimetres, of 8 people.

153 175 168 158 161 172 164 172

(a) Write down the mode.

..... cm [1]

(b) Find the median.

..... cm [2]

14 (a) Write $\frac{3}{5}$ as a decimal.

..... [1]

(b) Write 48% as a fraction in its simplest form.

..... [2]

15 The exchange rate between the dollar and the Thai Baht is $\$1 = 31.48$ Baht.

- (a)** Andy buys a watch in New York for \$84.

How much is this in Baht?

..... Baht [1]

- (b)** Ning buys a watch in Bangkok for 4200 Baht.

How much is this in dollars?

\$ [2]

- 16 (a)** A bag contains 3 red, 5 blue and 4 green counters.
A counter is picked at random.

Work out the probability that the counter is

- (i)** blue,

..... [1]

- (ii)** yellow.

..... [1]

- (b)** The probability of picking a brown counter from another bag is 0.35 .

Work out the probability of not picking a brown counter.

..... [1]

- 17 The table shows the opening hours of a doctor's surgery.

Day	Opening hours
Monday	09 00 – 14 00
Tuesday	09 00 – 14 00
Wednesday	09 00 – 16 30
Thursday	09 00 – 14 00
Friday	09 00 – 18 30
Saturday	08 30 – 12 30
Sunday	CLOSED

Work out the total number of hours the surgery is open during a week.

..... hours [3]

- 18 (a) Work out.

$$\begin{pmatrix} 5 \\ -1 \end{pmatrix} + \begin{pmatrix} -3 \\ 2 \end{pmatrix}$$

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

- (b) A is the point (3, 6) and B is the point (5, 10).

Work out $\overrightarrow{AB}$.

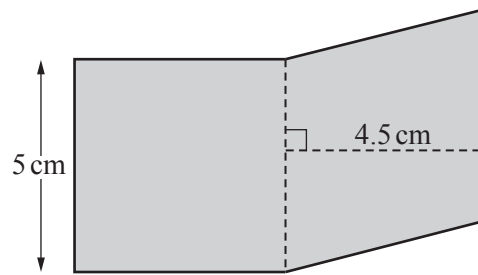
$$\overrightarrow{AB} = \begin{pmatrix} \\ \end{pmatrix} \quad [1]$$

- (c) C is the point (5, 8) and $\overrightarrow{CD} = \begin{pmatrix} 1 \\ 2 \end{pmatrix}$.

Find the co-ordinates of the point D .

(..... ,) [1]

- 19 The shaded shape is made by joining a square and a rhombus.



NOT TO
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Work out

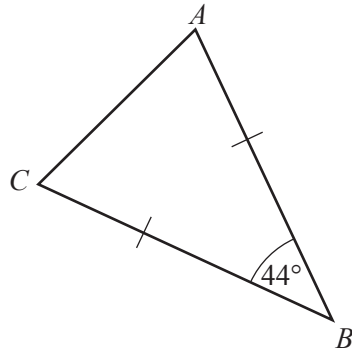
- (a) the perimeter of the shaded shape,

..... cm [1]

- (b) the area of the shaded shape.

..... cm² [2]

20 (a)

NOT TO
SCALE

Triangle ABC is an isosceles triangle with $AB = CB$.
Angle $ABC = 44^\circ$.

Find angle ACB .

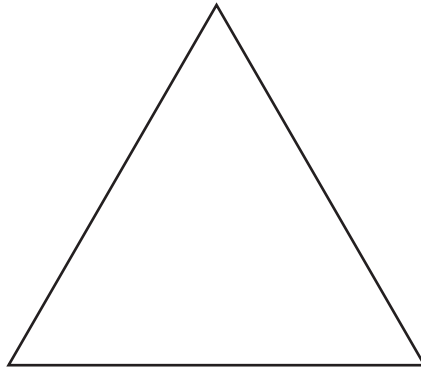
Angle $ACB = \dots\dots\dots$ [1]

(b) A regular polygon has an exterior angle of 40° .

Work out the number of sides of this polygon.

$\dots\dots\dots$ [2]

- 21 (a) The diagram shows an equilateral triangle.



On the diagram, draw all the lines of symmetry. [2]

- (b) (i) In the space below, draw a quadrilateral that has 2 lines of symmetry and rotational symmetry of order 2.

[1]

- (ii) Write down the mathematical name of your quadrilateral.

..... [1]

- 22 A circle has a radius of 6.4 cm.

- (a) Work out the circumference of the circle.

..... cm [2]

- (b) The circle forms the top of a cylinder of height 12 cm.

Work out the volume of the cylinder.

..... cm^3 [2]

Question 23 is printed on the next page.

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

$$5x + 4y = 17$$

$$2x - 3y = 16$$

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

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

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