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2722284219O

MATHEMATICS **0580/11**

Paper 1 (Core) **October/November 2024**

1 hour

You must answer on the question paper.

You will need: Geometrical instruments

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You should use a calculator where appropriate.
- You may use tracing paper.
- You must show all necessary working clearly.
- Give non-exact numerical answers correct to 3 significant figures, or 1 decimal place for angles in degrees, unless a different level of accuracy is specified in the question.
- For π, use either your calculator value or 3.142.

INFORMATION

- The total mark for this paper is 56.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **12** pages.

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1 Jacob is 10 years 8 months old.
Amy is 15 months younger than Jacob.

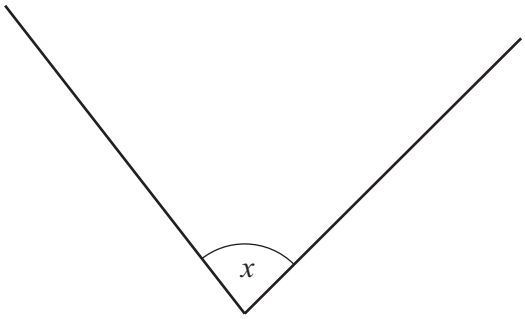
Find how old Amy is.

..... years ..... months [1]

2 Change 6.7 kilometres to metres.

..... m [1]

3



(a) Measure angle x.

Angle x = ... [1]

(b) Write down the mathematical name for this type of angle.

..... [1]

4 A concert starts at 19 50 and finishes 2 hours 42 minutes later.

Work out the time the concert finishes.

..... [1]

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5 Use one of these symbols $<$, $>$ or $=$ to make each statement true.

$\frac{2}{7}$ 0.2861

$\frac{99}{900}$ 11%

1^3 ..... 4^0

[2]

6 The stem-and-leaf diagram shows the number of cars sold each day by a company.

1	0 3 4 5 6 7
2	1 2 2 4 7 7 7
3	0 0 1 2 2 5 6 8
4	0 1 4 6
5	1 2 4

Key: 3 | 2 represents 32

(a) Find the range.

..... [1]

(b) Find the mode.

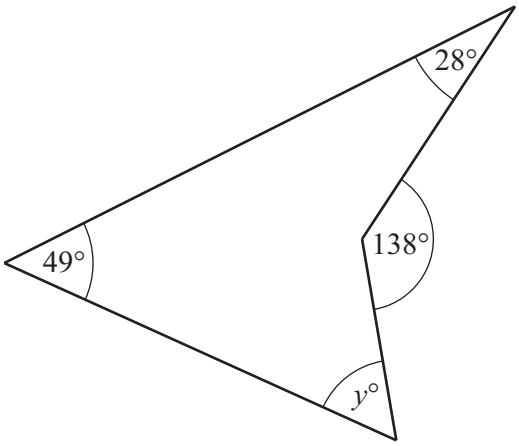
..... [1]

7 Find the reciprocal of $1\frac{1}{4}$.

..... [1]

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8



NOT TO SCALE

The diagram shows a quadrilateral.

Find the value of y.

$y =$ ..... [2]

9 Edith invests \$3000 in a savings account.
The account pays simple interest at a rate of 2.6% per year.

Calculate the total interest earned during the 3 years.

\$ ..... [2]

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10 **(a)** These are the first four terms of a sequence.

10 16 22 28

Write down the next term in the sequence.

..... [1]

(b) The term to term rule for another sequence is multiply by 3 and subtract 1.
The fourth term in the sequence is 68.

Find the third term in the sequence.

..... [2]

11 The circumference of a wheel is 198.55 cm.

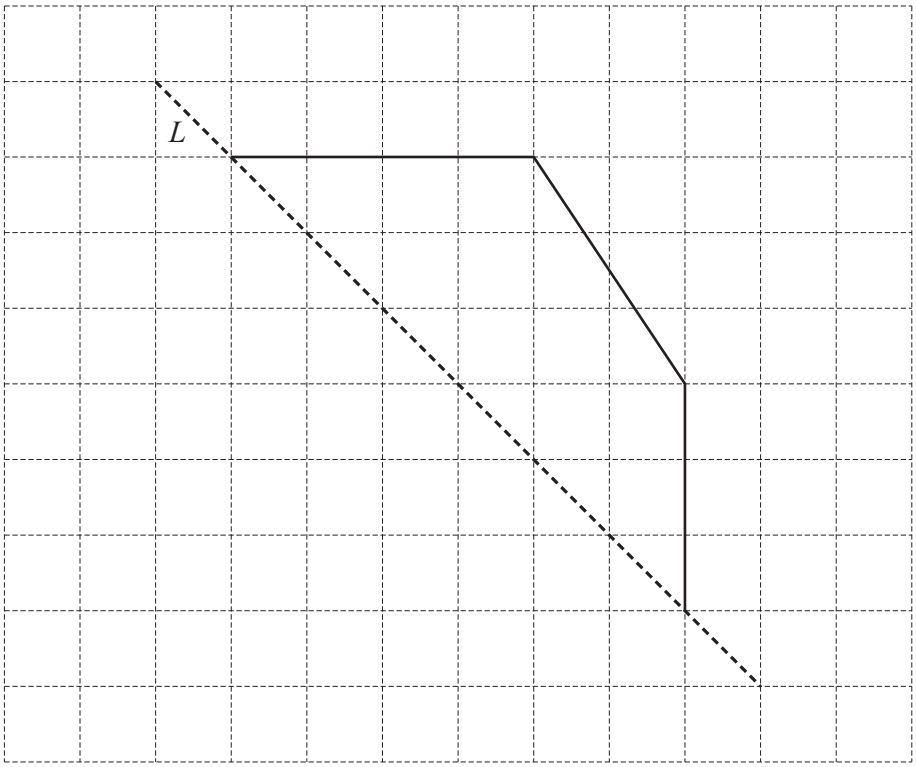
Calculate the diameter of the wheel.
Give your answer in millimetres.

..... mm [3]

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12 The grid shows half of a shape which has a line of symmetry, L.

Complete the shape.



[2]

13 **(a)** Find the value of $6c+7d$ when $c=3$ and $d=-4$.

..... [2]

(b) Solve.

$6x+8=11x+4$

$x =$ ..... [2]

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14 Write 34 as a percentage of 80.

..... % [1]

15 A bus stops 25 times on a journey.
The table shows the number of people who get on the bus at each stop.

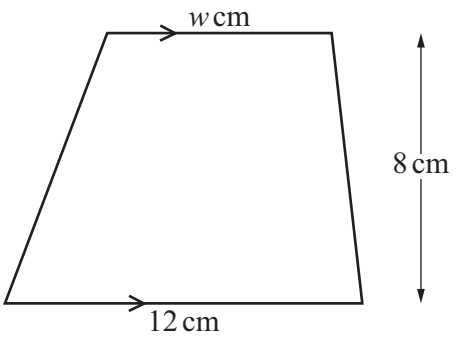
Number of people	Frequency
0	1
1	6
2	7
3	4
4	5
5	2

Calculate the mean.

..... [3]

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16



NOT TO SCALE

The diagram shows a trapezium with parallel sides of length 12 cm and w cm.
The height of the trapezium is 8 cm.
The area of the trapezium is 78 cm^2.

Find the value of w.

$w =$ ..... [2]

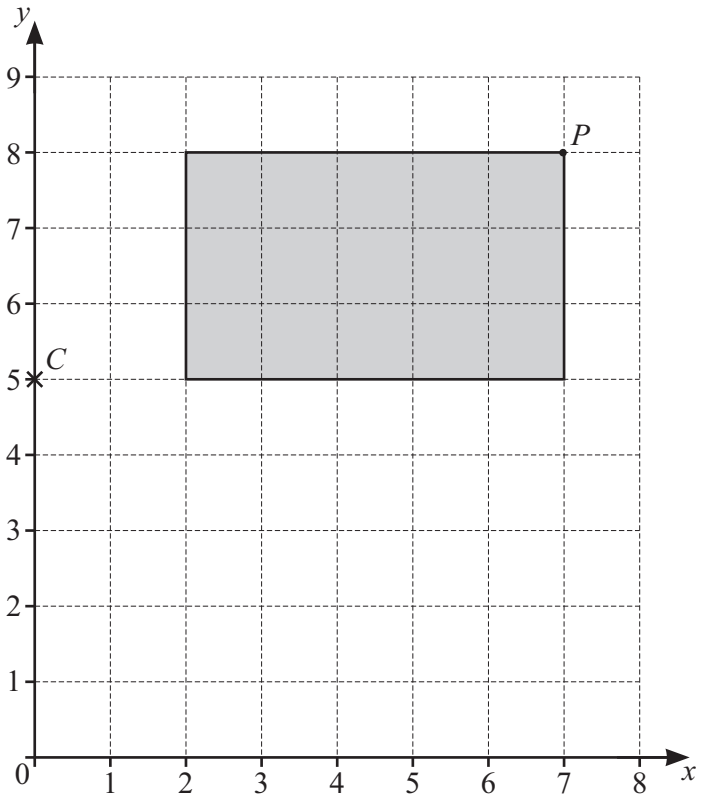
17 A distance, d metres, measures 34.6 m, correct to the nearest 0.1 m.

Complete this statement about the value of d.

..... $\leqslant d <$ ..... [2]

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18 The diagram shows a rectangle and two points, P and C, on a 1 cm^2 grid.



(a) Write down the coordinates of point C.

(..... , ...) [1]

(b) The rectangle is enlarged by scale factor 2 with centre of enlargement point C.

Find the coordinates of the image of point P.

(..... , ...) [2]

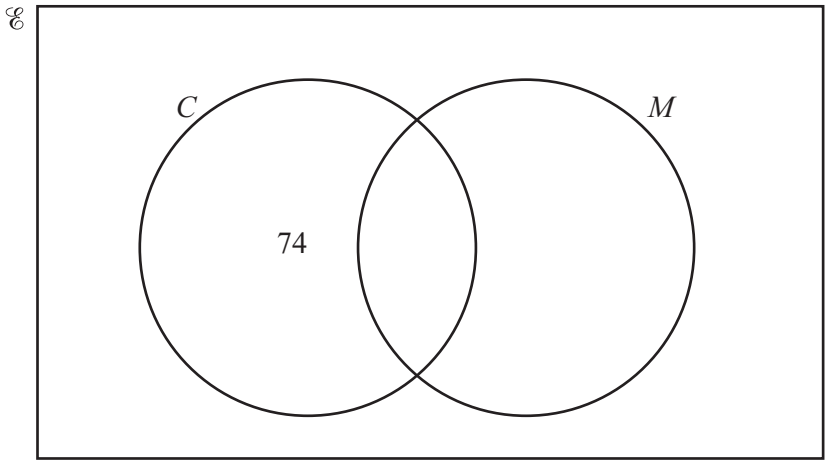
(c) Find the area of the enlarged rectangle.

..... cm^2 [1]

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19 Jo asks some people if they own a car (C) and if they own a motorbike (M).

86 people own a car.
39 people own a motorbike.
7 people do not own a car and do not own a motorbike.



(a) Complete the Venn diagram.

[2]

(b) Find the total number of people that Jo asks.

..... [1]

(c) Write down $n(C \cap M)$.

..... [1]

20 Josh buys a car for \$7800 and sells it for \$5265.

Calculate his percentage loss.

.....% [2]

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21 **(a)** Factorise.

$28x - 35$

..... [1]

(b) Make r the subject of the formula $T = \frac{r}{4} - p$.

$r =$ ..... [2]

22 Solve the simultaneous equations.
You must show all your working.

$$5x + 6y = 9$$
$$3x - 2y = -17$$

$x =$ .....

$y =$ .....
[3]

Questions 23 and 24 are printed on the next page.

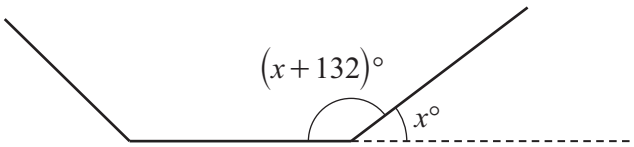
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23 **Without using a calculator**, work out $5\frac{1}{3} - 3\frac{4}{7}$.

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

..... [3]

24



NOT TO SCALE

The diagram shows part of a regular polygon.
The interior angle of the polygon is 132° larger than the exterior angle.

Calculate the number of sides of this polygon.

..... [3]

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