Cambridge IGCSE

**Cambridge International Examinations**
Cambridge International General Certificate of Secondary Education (9–1)

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| CANDIDATE NAME | |
| CENTRE NUMBER | |
| CANDIDATE NUMBER | |

*3298789877*

**MATHEMATICS** **0626/01**

Paper 1 (Core) **May/June 2018**

**1 hour**

Candidates answer on the Question Paper.

Additional Materials: Geometrical instruments
Tracing paper (optional)

**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 and graphs.
Do not use staples, paper clips, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.
**Electronic calculators should be used.**
If working is required for any question it must be shown below that question.
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 60.

This syllabus is regulated for use in England as a Cambridge International Level 1/Level 2 (9–1) Certificate.

This document consists of **15** printed pages and **1** blank page.


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CAMBRIDGE International Examinations

**1** Here is a list of numbers.

44 45 46 47 48 49 50 51 52

From this list write down

**(a)** a multiple of 13,

..... [1]

**(b)** a square number,

..... [1]

**(c)** a prime number.

..... [1]

**2** **(a)** Work out $\frac{3}{8}$ of 56.

..... [1]

**(b)** Convert $\frac{3}{8}$ to a percentage.

.....% [2]

**3** Solve.

**(a)** $5x + 3 = 17$

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

**(b)** $\frac{x}{7} = 40$

$x =$ ..... [1]

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**4** **(a)** Work out.

$$32.1 - 6.5 \times 4.2$$

..... [1]

**(b)** Write 7.8369 correct to 2 decimal places.

..... [1]

**(c)** Calculate.

$$\sqrt{\frac{14.73 + 51.2}{7.5}}$$

Give your answer correct to 3 significant figures.

..... [2]

**5** Harry is paid a basic rate of £11.20 for each hour that he works for up to 35 hours a week.

He is paid $1\frac{1}{4}$ times his basic rate of pay for each hour over 35 hours he works in one week.
One week Harry works for 42 hours.

How much is Harry paid for this week's work?

£ ..... [3]

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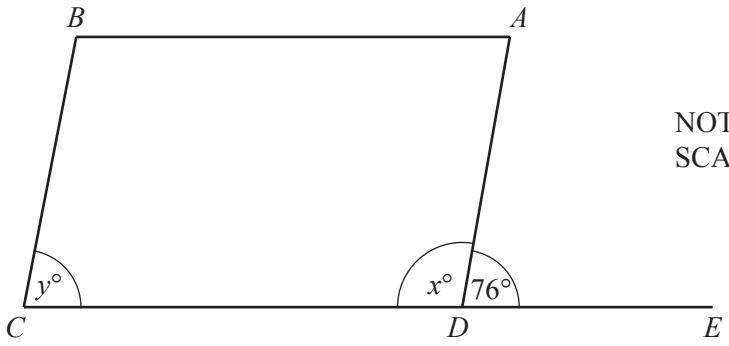
**6**




*ABCD* is a parallelogram.
*CDE* is a straight line.

**(a) (i)** Find the value of $x$.

$x =$ ..... [1]

**(ii)** Give a geometrical reason for your answer to **part (a)(i)**.

..... [1]

**(b) (i)** Find the value of $y$.

$y =$ ..... [1]

**(ii)** Give a geometrical reason for your answer to **part (b)(i)**.

..... [1]

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**7** **(a)** Multiply out.

$$x(3-x)$$

..... [1]

**(b)** Factorise.

$$18x+21$$

..... [1]

**8** **(a)** Work out $2^3$.

..... [1]

**(b)** $c$ and $d$ are whole numbers.

- $c^d = 64$

and

- $c < d$

Find the value of $c$ and the value of $d$.

$c =$ .....

$d =$ ..... [2]

**9** Farhat and Haroon were paid a total of £210 for a project they worked on.
Farhat worked for 7 hours and Haroon worked for 5 hours.
The £210 was shared between Farhat and Haroon in the same ratio as the number of hours they worked.

How much did Haroon receive?

£ ..... [2]

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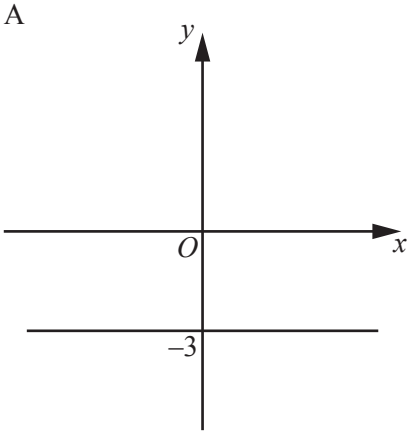
**10**

A

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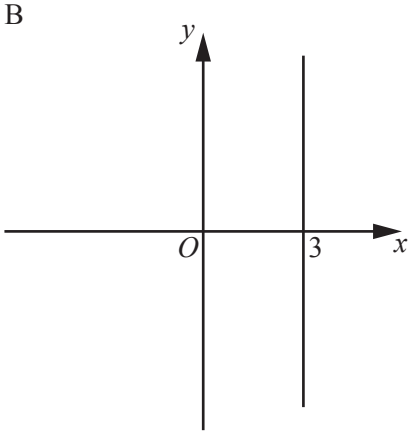


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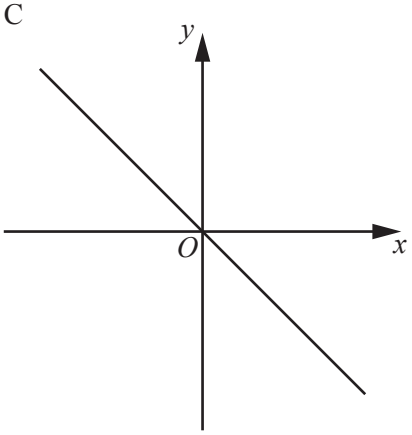


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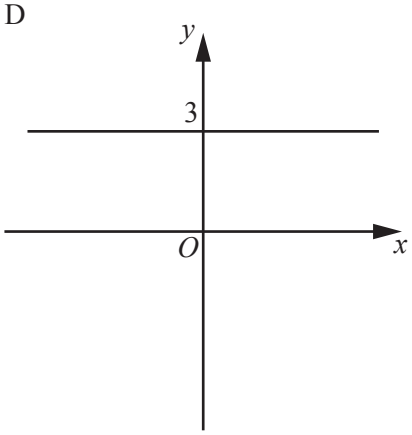


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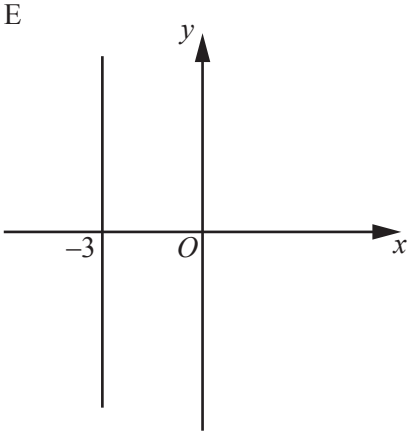


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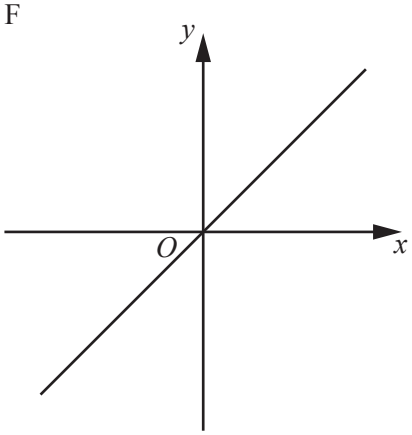



These are the graphs of six straight lines.

Write down the letter corresponding to the graph of

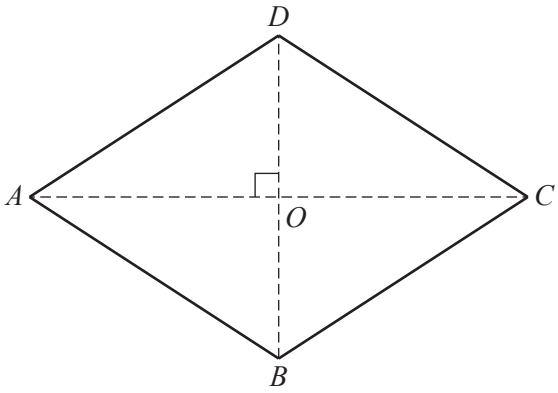
**(a)** $x = 3$,

..... [1]

**(b)** $y = -x$.

..... [1]

**11**




NOT TO SCALE

*ABCD* is a rhombus.
Diagonals *AC* and *BD* meet at *O*.
*AC* = 12 cm, *BD* = 10 cm and angle *AOD* = 90°.

Work out the area of the rhombus.

.....cm$^2$ [3]

**12**

**Charity Fun Run**

10 kilometres
Starts 9.30 am at the
Recreation Ground

**(a)** Judy takes part in this Charity Fun Run.
She completes the run at 10.18 am.

Work out her average speed in kilometres per hour.

..... km/h [3]

**(b)** Write down one assumption you made when working out Judy's average speed.

.....

..... [1]

**13** Hilda is carrying out a health survey.
She stands outside a health food store and surveys 12 people as they leave the store.

Give **one** reason why her results may not be reliable.

.....

..... [1]

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**[Turn over**

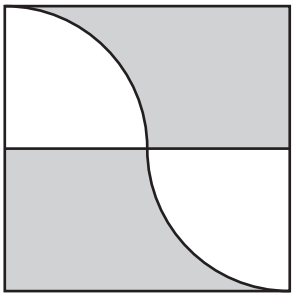
**14** A suitcase has a mass of 21 kg, correct to the nearest kilogram.

Write down the lower bound and the upper bound of the mass of this suitcase.

lower bound ..... kg

upper bound ..... kg [2]

**15** The diagram shows a pattern made from a square of side 30 cm and two identical quarter circles.




NOT TO SCALE

Calculate the shaded area.

..... $cm^2$ [3]

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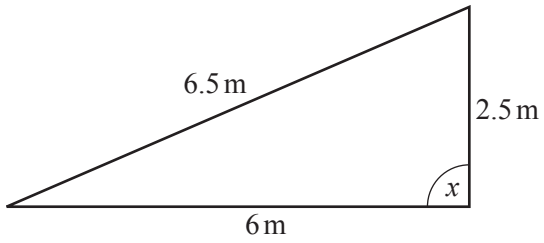
**16** The diagram shows a flower bed that David has made.




NOT TO SCALE

David says:

Angle $x$ is a right angle.

Show that David is correct.

[2]

**17** The members of Dolphin Swim Club and Shark Swim Club each complete as many lengths of the same pool as they can.
The stem and leaf diagrams show the results.

Dolphin Swim Club

| | |
|---|---|
| 2 | 6 8 9 9 |
| 3 | 0 2 2 3 |
| 4 | 2 3 |
| 5 | |
| 6 | 9 |

Shark Swim Club

| | |
|---|---|
| 2 | 5 7 7 8 |
| 3 | 1 1 4 9 9 |
| 4 | 0 3 3 5 |

**Key:** 6 | 9 represents 69 lengths

**(a)** Explain why the mean number of lengths should not be used to compare the swim clubs.

.....

..... [1]

**(b)** The median number of lengths completed by Shark Swim Club is 34.

Compare the average number of lengths completed by the two clubs.

.....

..... [2]

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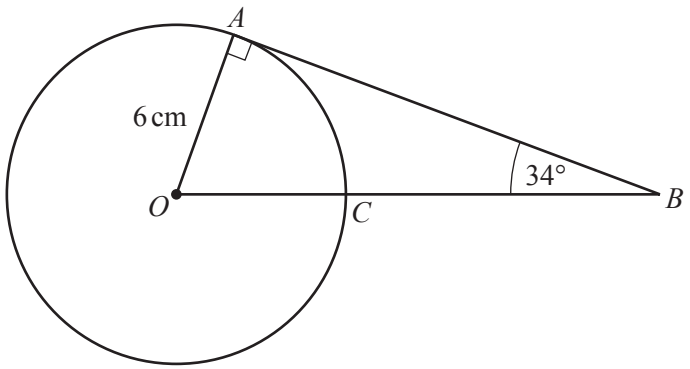
**18**




NOT TO SCALE

The diagram shows a circle centre $O$ and radius 6 cm.
The line $AB$ is a tangent to the circle at $A$.
The point $C$ is where the line $OB$ crosses the circumference of the circle.
Angle $ABO = 34°$.

**(a)** Explain why the radius $OA$ is the shortest distance from $O$ to the tangent $AB$.

..... [1]

**(b)** **(i)** Calculate the length of $OB$.

$OB =$ ..... cm [3]

**(ii)** Work out the length of $BC$.

$BC =$ ..... cm [1]

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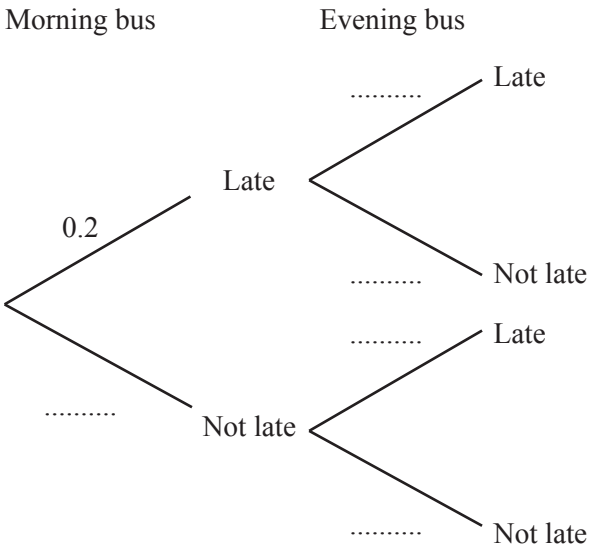
**19** Renata goes to work by bus in the morning and goes home by bus in the evening.
The probability that the morning bus is late is 0.2 .

When the morning bus is late, the probability that the evening bus is late is 0.6 .
When the morning bus is not late, the probability that the evening bus is late is 0.1 .

**(a)** Complete the tree diagram.

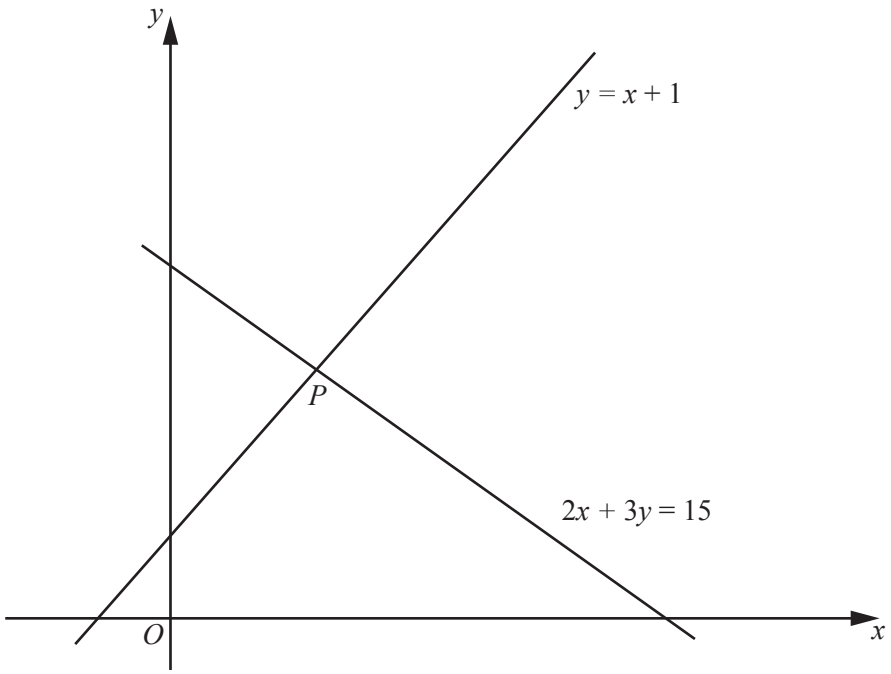



[2]

**(b)** Find the probability that both buses are late.

..... [2]

**20**




This is a sketch of the graphs of $y = x + 1$ and $2x + 3y = 15$.
The two lines meet at the point $P$.

Work out the co-ordinates of $P$.

(..... , .....) [4]

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