Cambridge IGCSE

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

CANDIDATE NAME	
CENTRE NUMBER	
CANDIDATE NUMBER	

MATHEMATICS **0626/01**

Paper 1 (Core) **October/November 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 π, 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 **11** printed pages and **1** blank page.

DC (RW/CGW) 153468/1

CAMBRIDGE International Examinations

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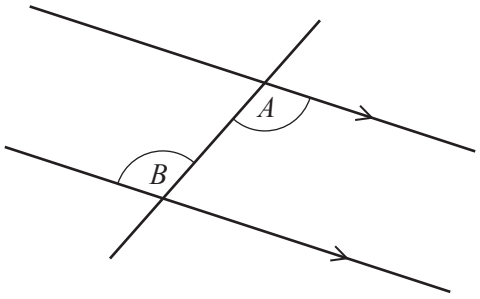
1



The diagram shows a straight line crossing a pair of parallel lines.
Tommy says that angle *A* and angle *B* are the same size.

Write down the geometrical reason for this.

..... [1]

2 The probability that Tristan scores a goal in a football match is 0.28 .

Work out the probability that he does **not** score a goal in the football match.

..... [1]

3 A bag contains 9 balls.
There are 4 green balls, 2 red balls and 3 purple balls.
A ball is taken at random from the bag.

Write down the probability that the ball

(a) is orange,

..... [1]

(b) is either purple or green.

..... [1]

4 25 920 people watch United and City play a football match.

- $\frac{1}{3}$ of the people support United
- 15% of the United supporters are children
- $\frac{3}{4}$ of the children supporting United are boys

Work out how many people at the match are boys supporting United.

..... [4]

5 Write down

(a) a factor of 100 between 21 and 40,

..... [1]

(b) the **largest** multiple of 11 that is less than 100,

..... [1]

(c) a square number between 70 and 90,

..... [1]

(d) a cube number greater than 100,

..... [1]

(e) a prime number between 70 and 80.

..... [1]

6 A book has 432 pages.

(a) On average the book has 34 lines on each page and 10 words on each line.

Use this information to estimate the total number of words in the book.
Give your answer in standard form.

..... [3]

(b) The book is 38 mm thick.
The front and back covers are each 3 mm thick.

Work out the thickness of one page of the book.

..... mm [2]

7 Amelia invested £400 for 7 years at a rate of 5% per year **simple** interest.

Calculate the value of Amelia's investment at the end of the 7 years.

£ ..... [3]

8 Calculate.

$$\frac{5.2^3}{\sqrt{5}+4}$$

Give your answer correct to 2 decimal places.

..... [2]

9 **(a)** Write down the reciprocal of 4.

..... [1]

(b) Find an irrational number between 10 and 20.

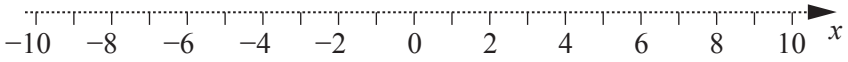
..... [1]

10 **(a)** Solve this inequality.

$$-6 \leqslant 3x < 9$$

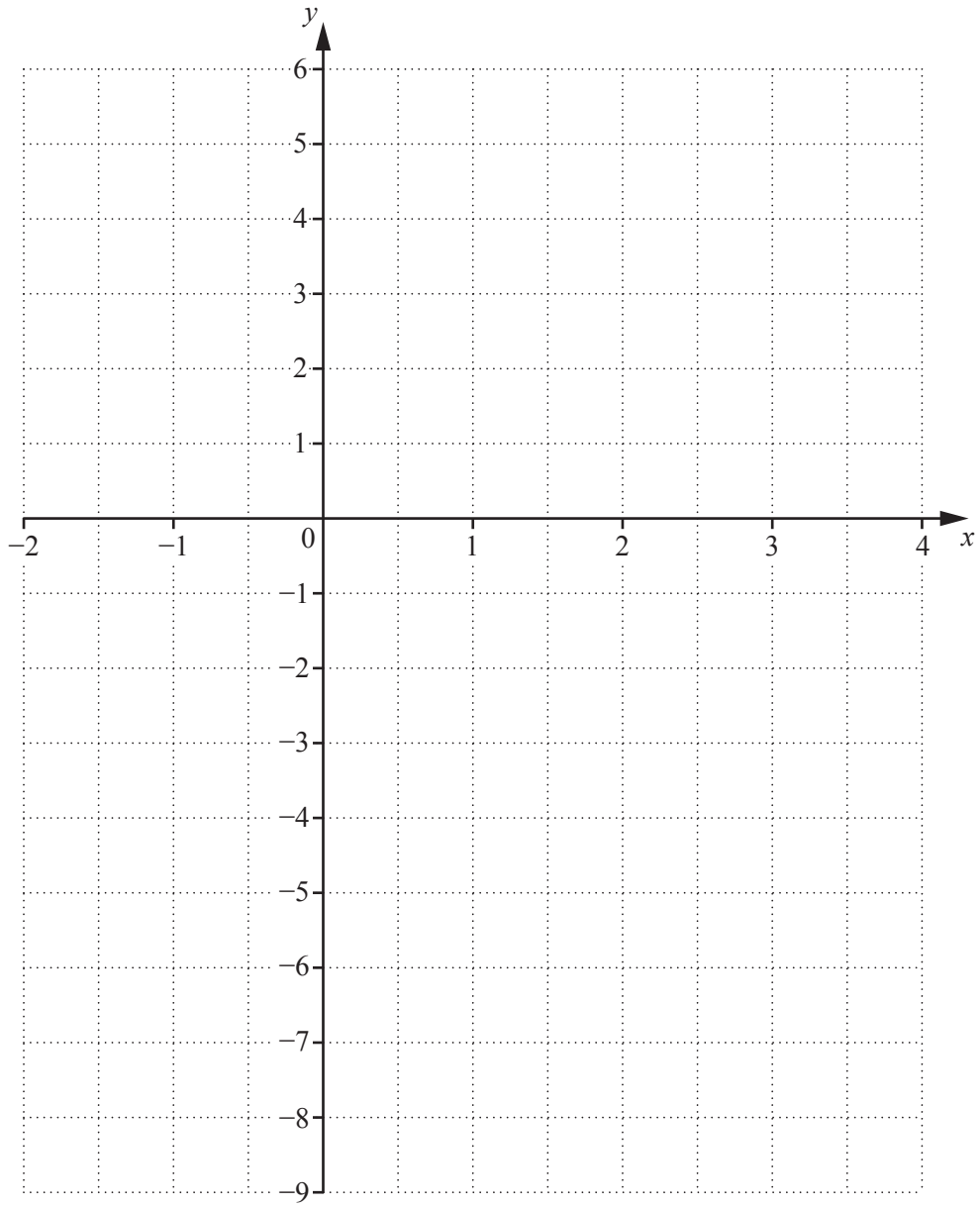
..... [2]

(b) Represent $-5 < x \leqslant 7$ on the number line.



[2]

11 On the grid, draw the graph of $y = 2x - 3$.



[3]

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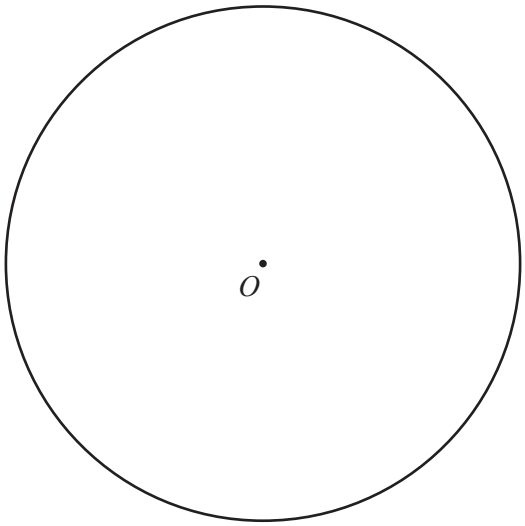


The diagram shows a circle centre O.

(a) Draw and measure the radius of the circle.

..... cm [1]

(b) Use a protractor to divide the circle into five equal sectors.

[2]

(c) Calculate the area of the circle.

.....cm^2 [2]

13 **(a)** Write 120 as a product of prime factors.

..... [2]

(b) Find the lowest common multiple (LCM) of 120 and 280.

..... [2]

14 **(a)** Here are the first four terms of a sequence.

23 17 11 5

Write down the next term of this sequence.

..... [1]

(b) Find an expression for the nth term of this sequence.

11, 15, 19, 23, 27, …

..... [2]

15 There are 196 students in Year 11 in Maria's school.
43 of these students play a musical instrument.

(a) Write down the relative frequency of students who play a musical instrument in Year 11.

..... [1]

(b) There are a total of 1120 students in Maria's school.

Use your answer to **part (a)** to calculate an estimate for the number of students in Maria's school who play a musical instrument.

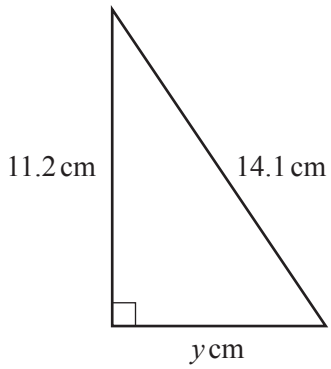
..... [2]

(c) Give a reason why your answer to **part (b)** may not be a good estimate.

.....

..... [1]

16



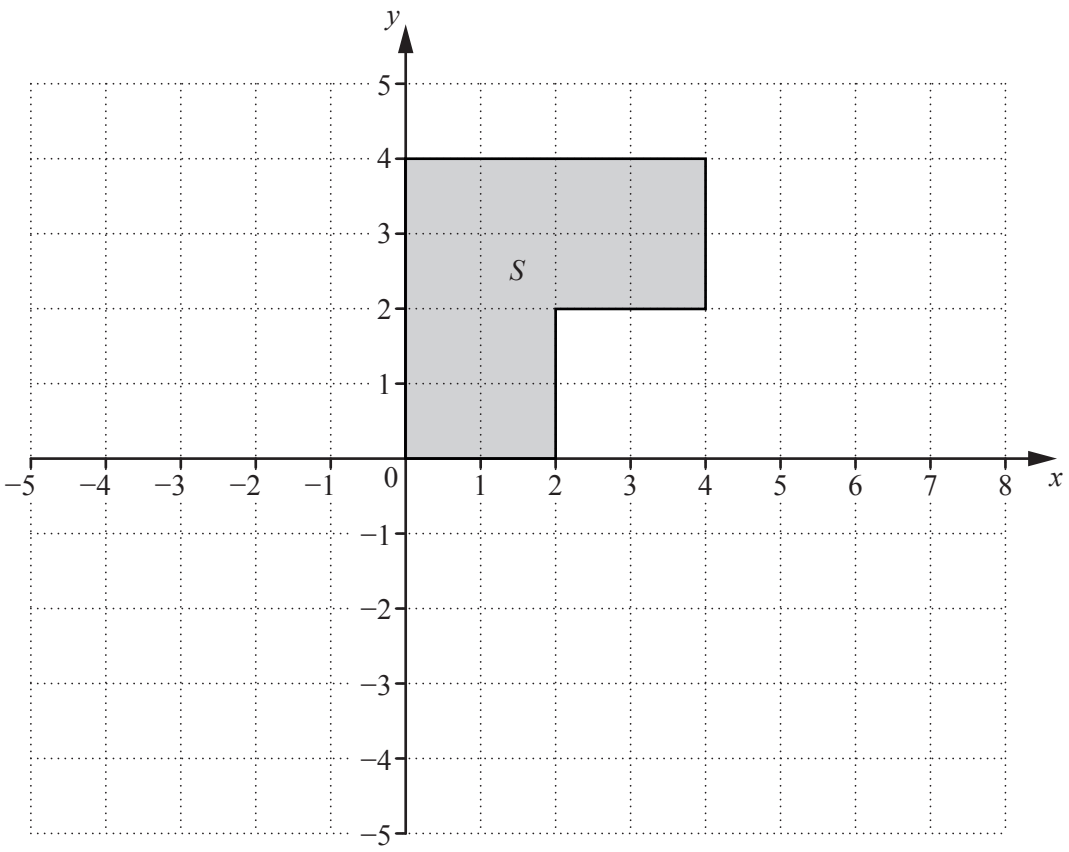
NOT TO SCALE

The diagram shows a right-angled triangle.

Calculate the value of y.

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

17



Draw the enlargement of shape S with scale factor $\frac{1}{2}$ and centre $(-4, 0)$. [2]

18 **(a)** Simplify $(m^3)^6$.

..... [1]

(b) $4x^3y^{-2} \times px^qy^r = 20x^{10}$

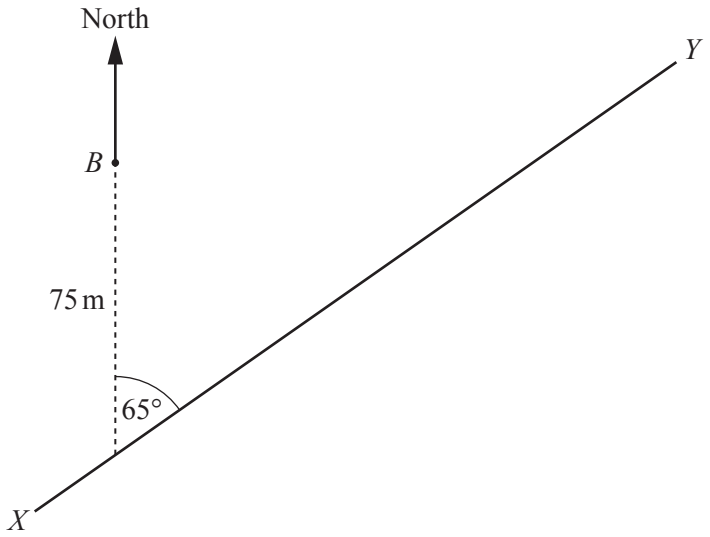
Find the values of p, q and r.

$p =$ .....

$q =$ .....

$r =$ ..... [3]

19



NOT TO SCALE

The diagram shows the straight path of a swimmer from X to Y and the position of a fixed buoy, B.
The swimmer is moving on a bearing of 065°.
The swimmer passes 75 metres due south of B.

Calculate the shortest distance between the swimmer and B as he swims from X to Y.

..... m [3]

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