Cambridge Assessment International Education

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1734374453

CAMBRIDGE INTERNATIONAL MATHEMATICS **0607/13**

Paper 1 (Core) **October/November 2020**

45 minutes

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.
- Calculators must **not** be used in this paper.
- You may use tracing paper.
- You must show all necessary working clearly and you will be given marks for correct methods even if your answer is incorrect.
- All answers should be given in their simplest form.

INFORMATION

- The total mark for this paper is 40.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **12** pages. Blank pages are indicated.

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Formula List

Area, A, of triangle, base b, height h.	$A = \frac{1}{2}bh$
Area, A, of circle, radius r.	$A = \pi r^2$
Circumference, C, of circle, radius r.	$C = 2\pi r$
Curved surface area, A, of cylinder of radius r, height h.	$A = 2\pi rh$
Curved surface area, A, of cone of radius r, sloping edge l.	$A = \pi rl$
Curved surface area, A, of sphere of radius r.	$A = 4\pi r^2$
Volume, V, of prism, cross-sectional area A, length l.	$V = Al$
Volume, V, of pyramid, base area A, height h.	$V = \frac{1}{3}Ah$
Volume, V, of cylinder of radius r, height h.	$V = \pi r^2 h$
Volume, V, of cone of radius r, height h.	$V = \frac{1}{3}\pi r^2 h$
Volume, V, of sphere of radius r.	$V = \frac{4}{3}\pi r^3$

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Answer **all** the questions.

1 Work out.

$-3+5$

..... [1]

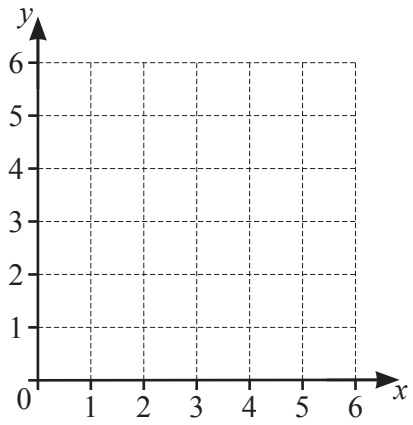
2

27 32 35 36 39 42

From the list, write down the square number.

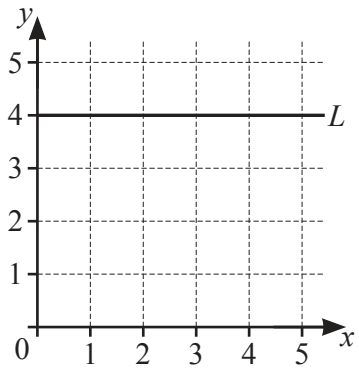
..... [1]

3 **(a)**



On the grid, plot the point (5, 3). [1]

(b)



Write down the coordinates of any point on the straight line, L.

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

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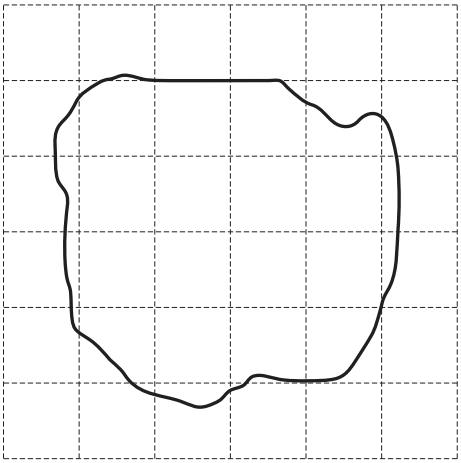

The diagram shows a shape on a 1 cm^2 grid.

Estimate the area of this shape.

..... cm^2 [1]

5 Write $\frac{3}{10}$ as a decimal.

..... [1]

6 Work out $\frac{3}{11}$ of 77.

..... [1]

7 Insert brackets to make this calculation correct.

$$3 \times 2 + 4 = 18$$ [1]

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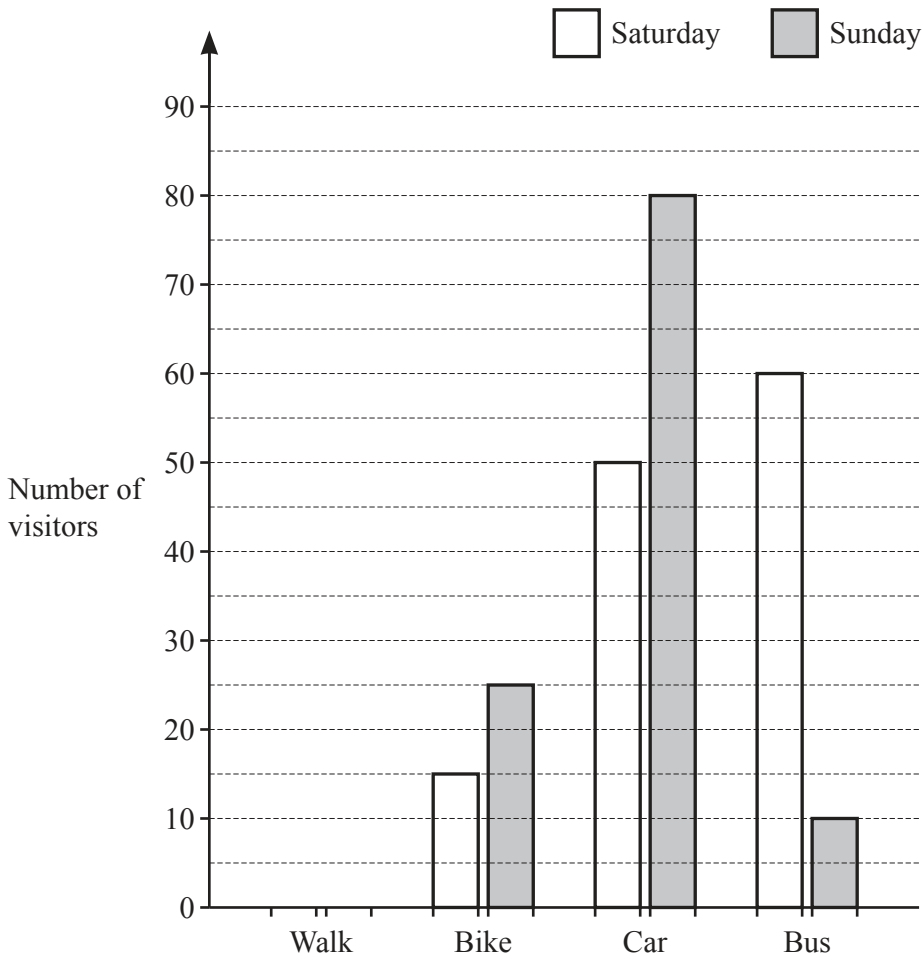
8



The bar chart shows some information about the way visitors travel to a museum.

(a) 20 visitors walked on Saturday and 30 visitors walked on Sunday.

Complete the bar chart. [1]

(b) Find how many more visitors arrived by bus than by car on Saturday.

..... [1]

9 The probability that Joanna is late for school is 0.15 .

Find the probability that Joanna is **not** late for school.

..... [1]

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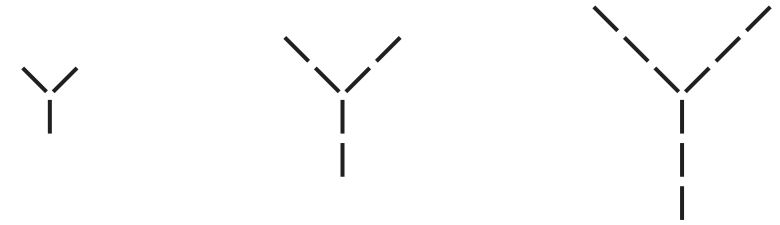
10



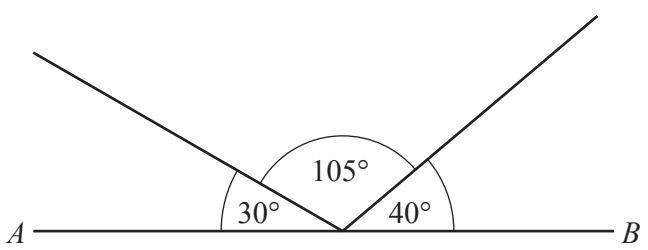
Pattern 1 Pattern 2 Pattern 3

There are 3 rods in Pattern 1.

Write down the number of rods in Pattern 5.

..... [1]

11 (a)

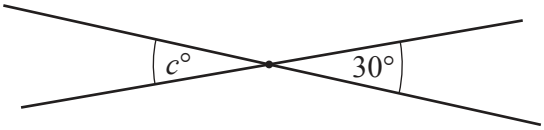


NOT TO SCALE

Explain why line *AB* cannot be a straight line.

..... [1]

(b)



NOT TO SCALE

Complete the statement.

c = ... because ..... [2]

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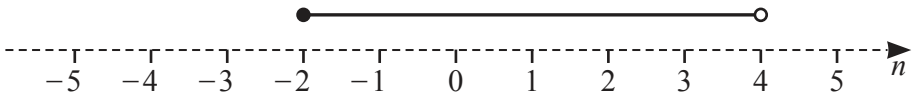
12 By writing each number correct to 1 significant figure, find an estimate of

$$(6.98 + 3.04) \times 79.92 \ .$$

..... [2]

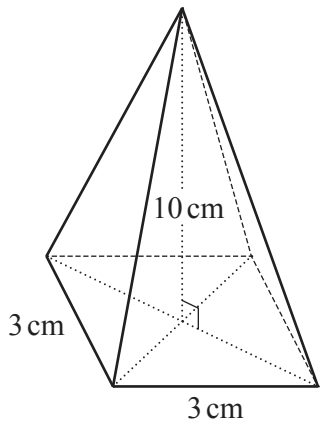
13



Complete the statement using $<$, $\leqslant$, $=$, $\geqslant$ or $>$.

This number line shows the inequality -2 ..... n ..... 4. [2]

14



NOT TO SCALE

The diagram shows a square-based pyramid of base length 3 cm and vertical height 10 cm.

Calculate the volume of this pyramid.

..... cm^3 [3]

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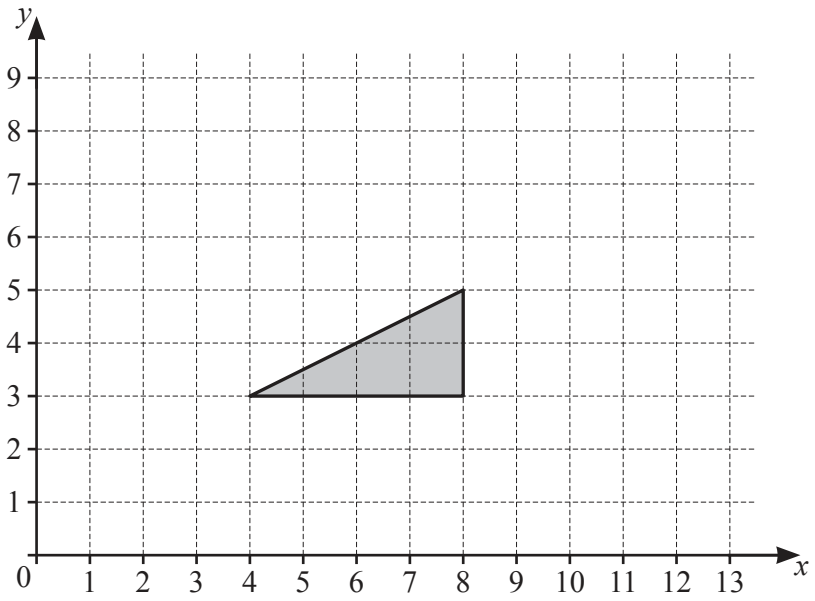
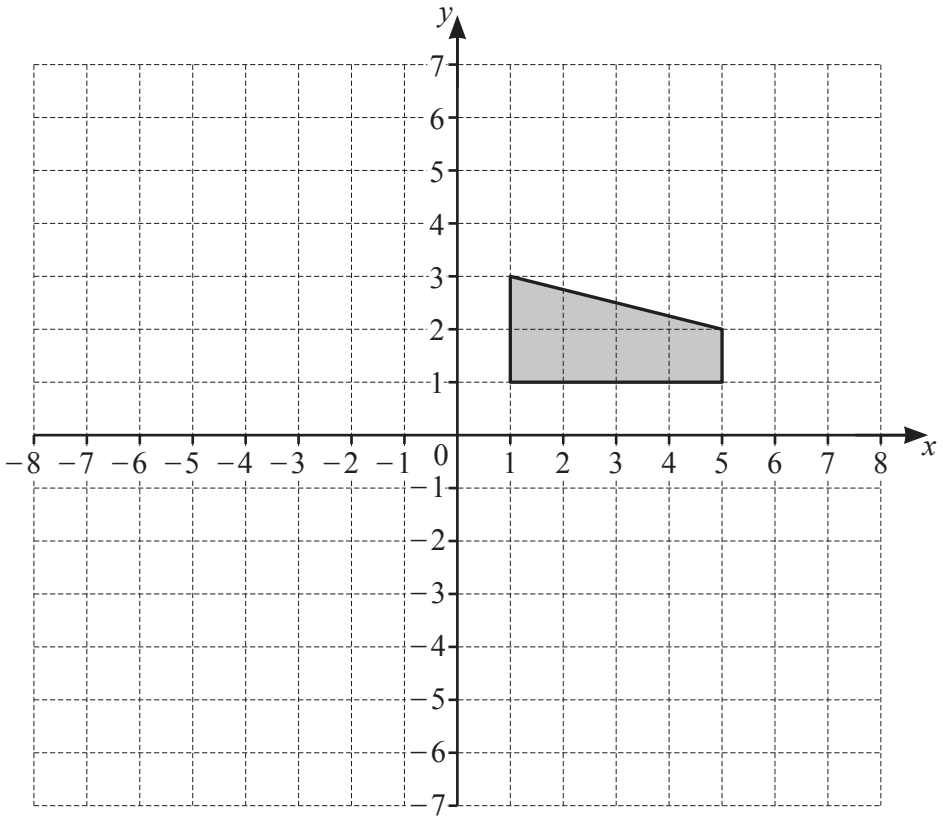
15 (a)



On the grid, translate the triangle by the vector $\begin{pmatrix} 4 \\ -2 \end{pmatrix}$. [2]

(b)



On the grid, enlarge the shape by scale factor 3 about the point (4, 2). [2]

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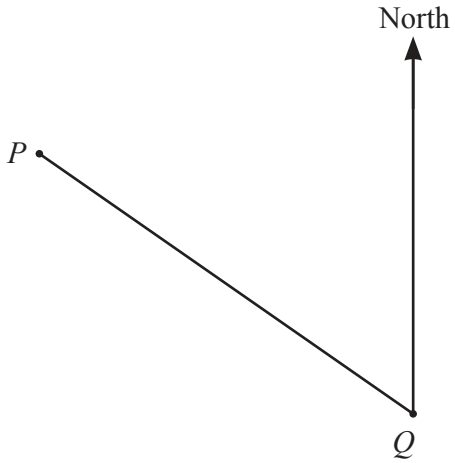
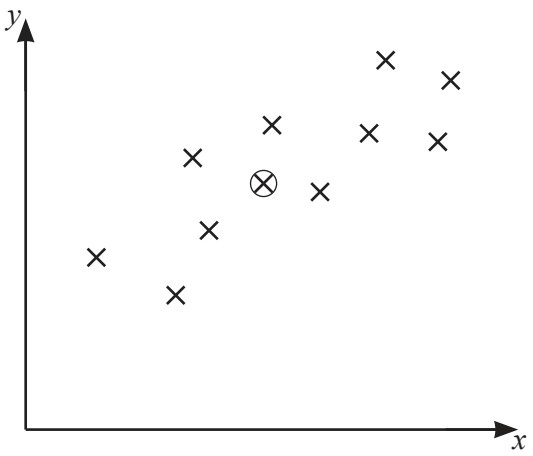
16



Measure the bearing of P from Q.

..... [1]

17



The scatter diagram shows 11 crosses.
10 of the crosses represent data.
The point marked ⊗ is the mean point.

On the grid, draw a line of best fit. [2]

18 Make x the subject of the formula.

$$y + ax = 5$$

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

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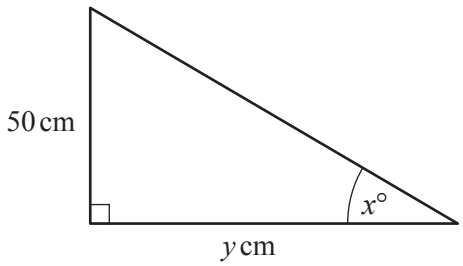
19 Find the highest common factor (HCF) of 15 and 21.

..... [1]

20



NOT TO SCALE

$\sin x = \frac{5}{13}$ $\cos x = \frac{12}{13}$ $\tan x = \frac{5}{12}$

Find the value of y.

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

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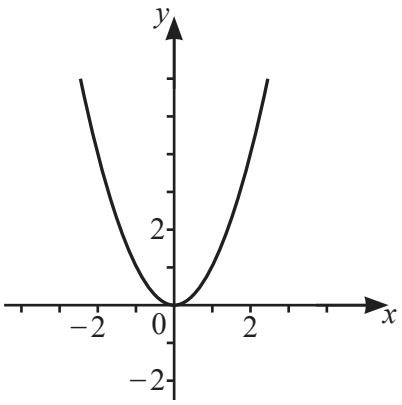
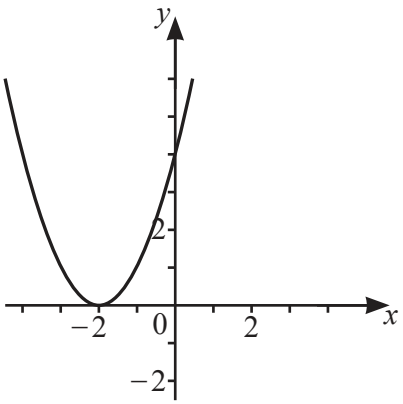
21 The diagram shows the graph of $y = f(x)$.

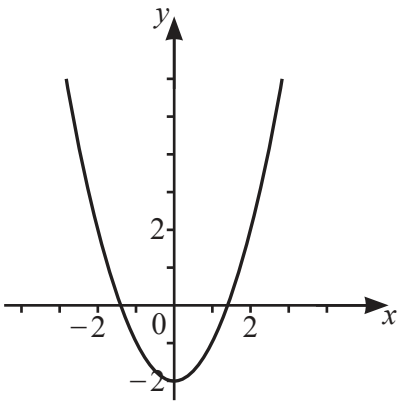


Here are four more graphs, A, B, C and D.

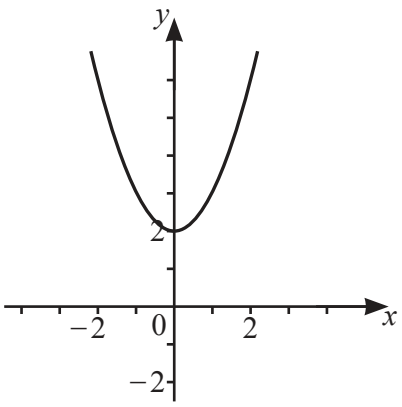
A



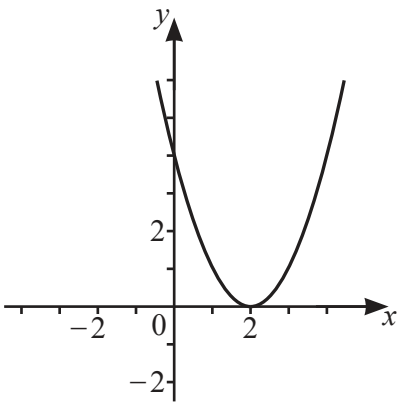
B



C



D



Write down the letter of the graph which shows

(a) $y = f(x) + 2$,

..... [1]

(b) $y = f(x + 2)$.

..... [1]

Question 22 is printed on the next page.

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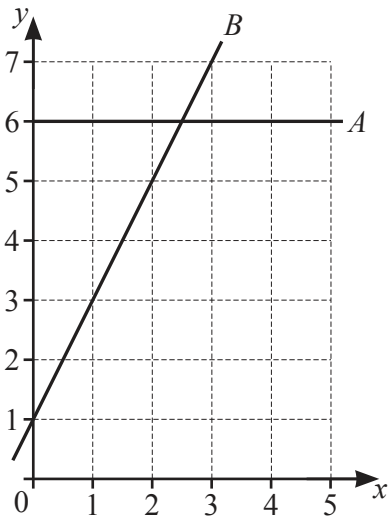
22



(a) Write down the equation of line A.

..... [1]

(b) Find the equation of line B.

..... [3]

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