



# Cambridge IGCSE™

CANDIDATE  
NAME

--

CENTRE  
NUMBER

--	--	--	--	--

CANDIDATE  
NUMBER

--	--	--	--



**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.

**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  $h$ .  $V = \frac{1}{3}Ah$

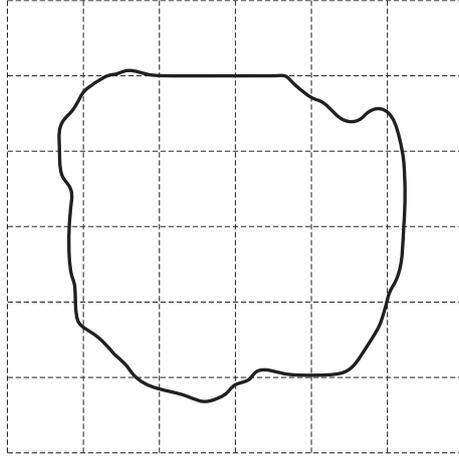
Volume,  $V$ , of cylinder of radius  $r$ , height  $h$ .  $V = \pi r^2 h$

Volume,  $V$ , of cone of radius  $r$ , height  $h$ .  $V = \frac{1}{3}\pi r^2 h$

Volume,  $V$ , of sphere of radius  $r$ .  $V = \frac{4}{3}\pi r^3$



4



The diagram shows a shape on a  $1 \text{ cm}^2$  grid.

Estimate the area of this shape.

.....  $\text{cm}^2$  [1]

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

..... [1]

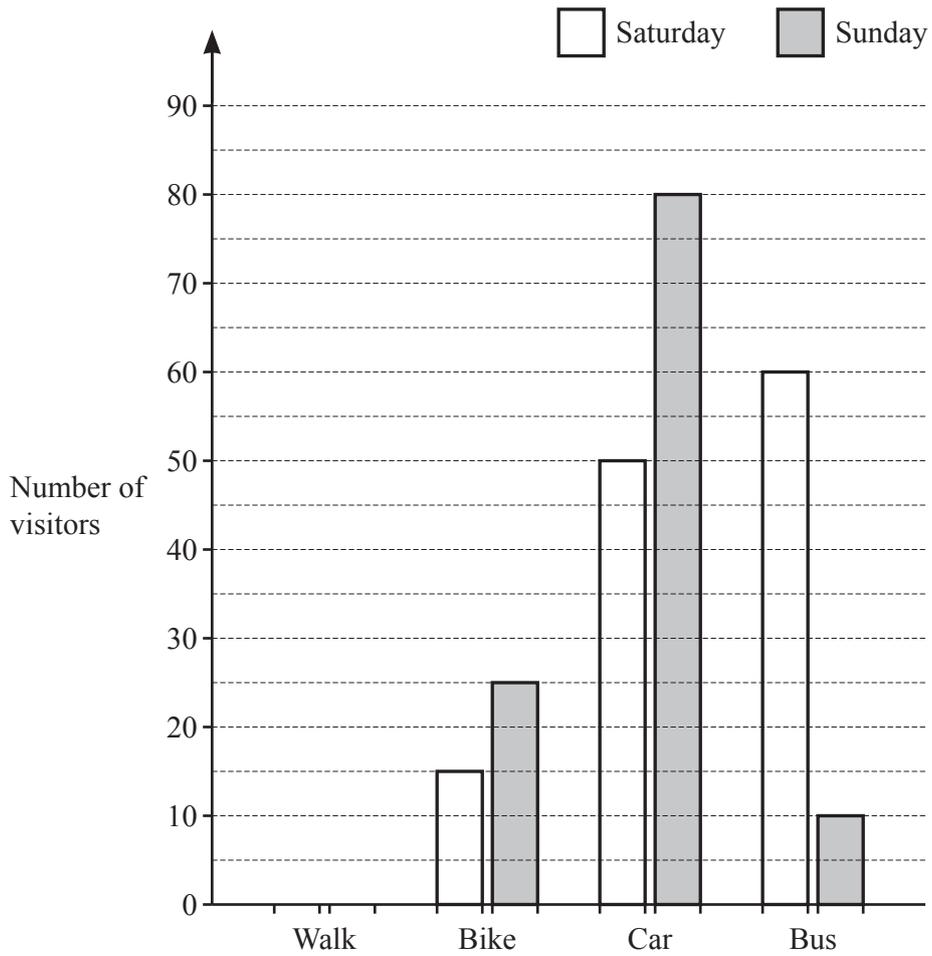
6 Work out  $\frac{3}{11}$  of 77.

..... [1]

7 Insert brackets to make this calculation correct.

$$3 \times 2 + 4 = 18$$

[1]



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.

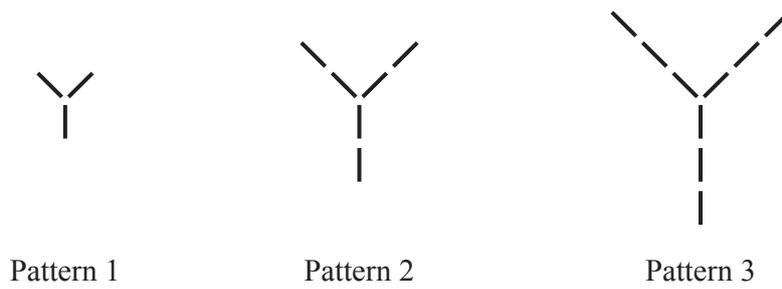
..... [1]

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

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

..... [1]

10

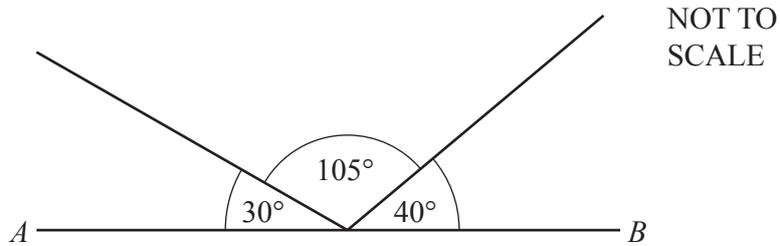


There are 3 rods in Pattern 1.

Write down the number of rods in Pattern 5.

..... [1]

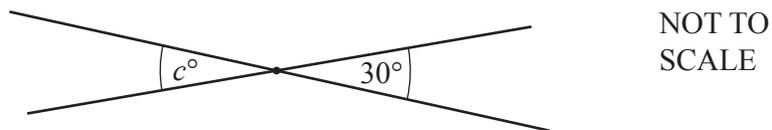
11 (a)



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

..... [1]

(b)



Complete the statement.

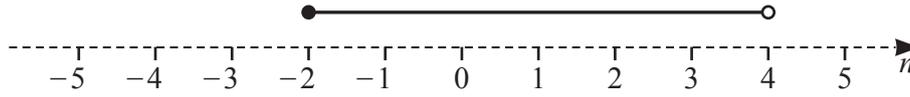
$c =$  ..... because ..... [2]

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

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

..... [2]

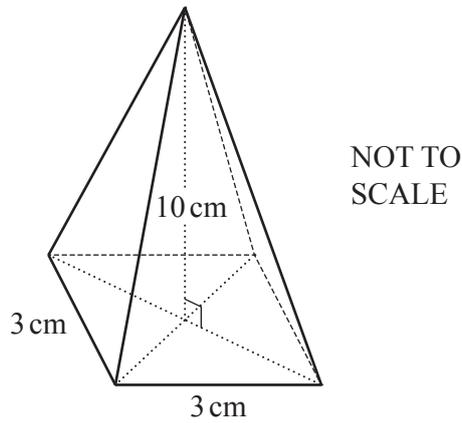
13



Complete the statement using  $<$ ,  $\leq$ ,  $=$ ,  $\geq$  or  $>$ .

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

14

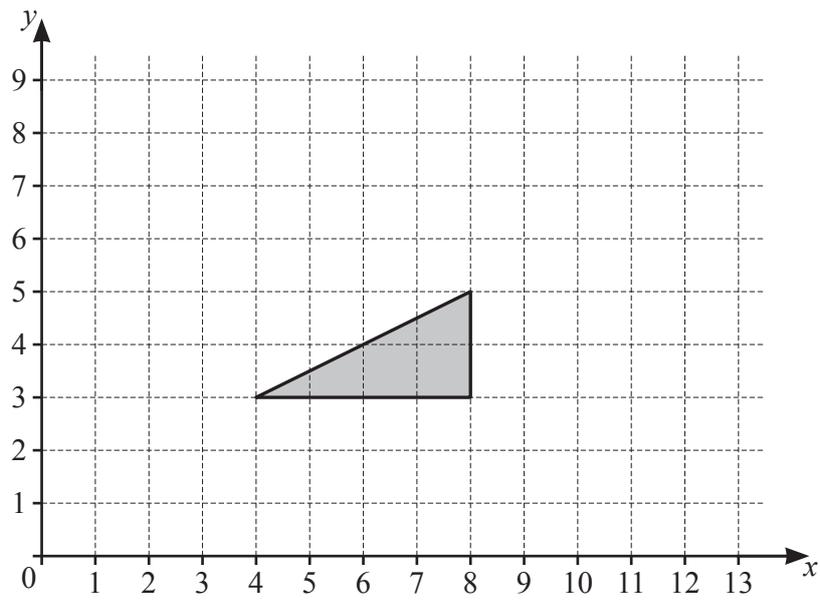


The diagram shows a square-based pyramid of base length 3 cm and vertical height 10 cm.

Calculate the volume of this pyramid.

.....  $\text{cm}^3$  [3]

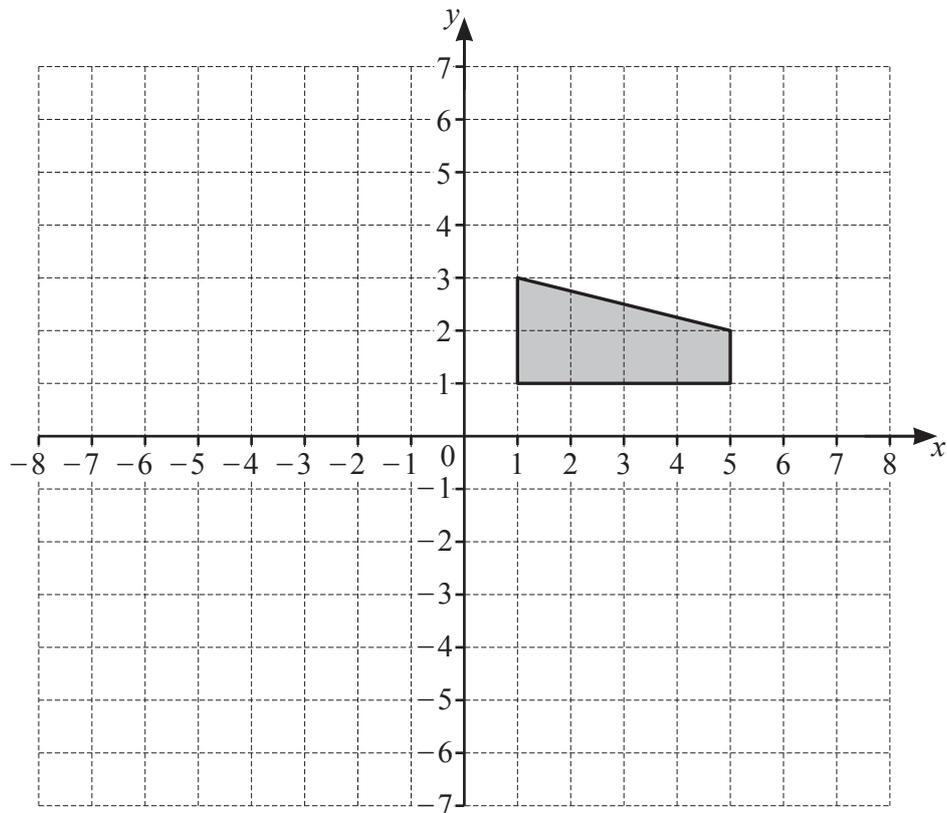
15 (a)



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

[2]

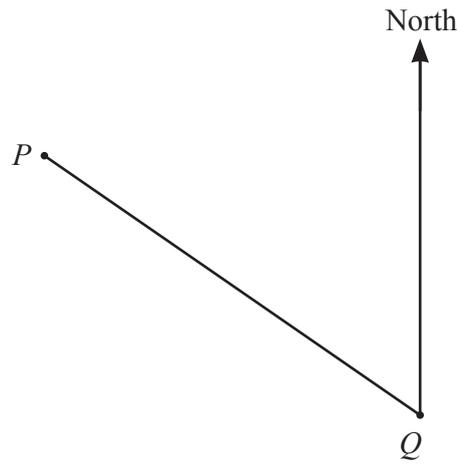
(b)



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

[2]

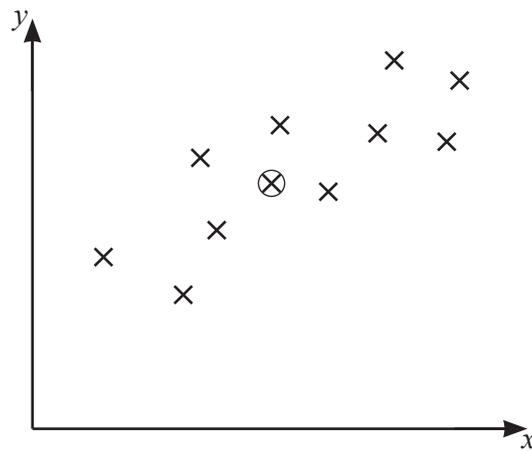
16



Measure the bearing of  $P$  from  $Q$ .

..... [1]

17



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

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

18 Make  $x$  the subject of the formula.

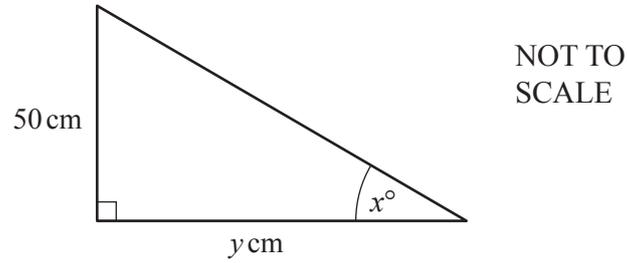
$$y + ax = 5$$

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

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

..... [1]

20

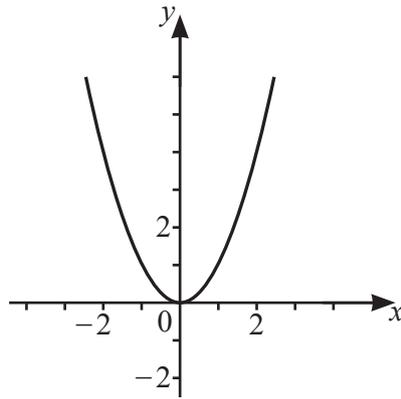


$$\sin x = \frac{5}{13} \quad \cos x = \frac{12}{13} \quad \tan x = \frac{5}{12}$$

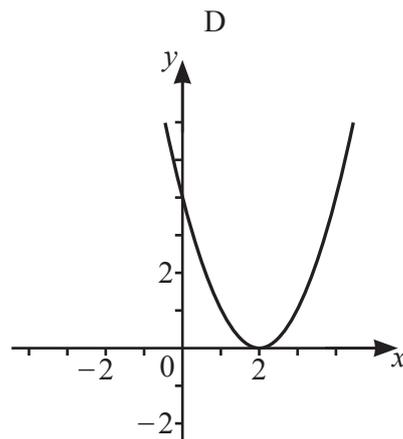
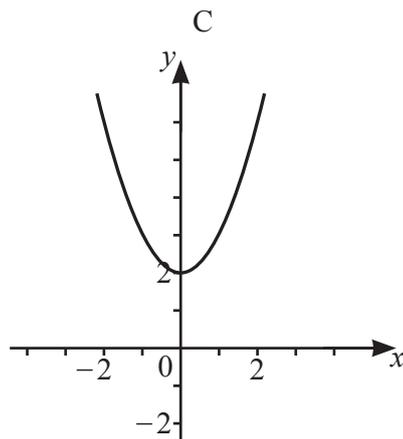
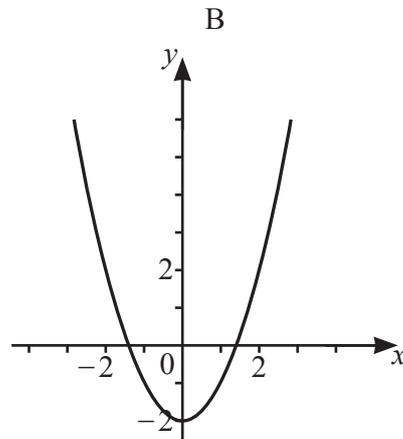
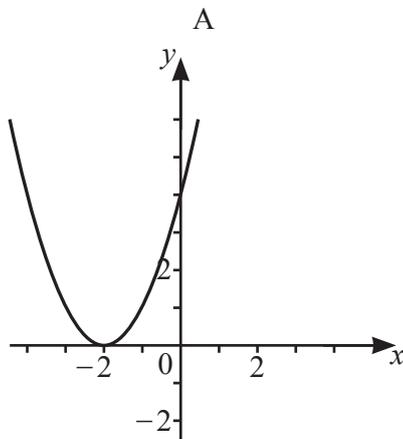
Find the value of  $y$ .

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

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



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



Write down the letter of the graph which shows

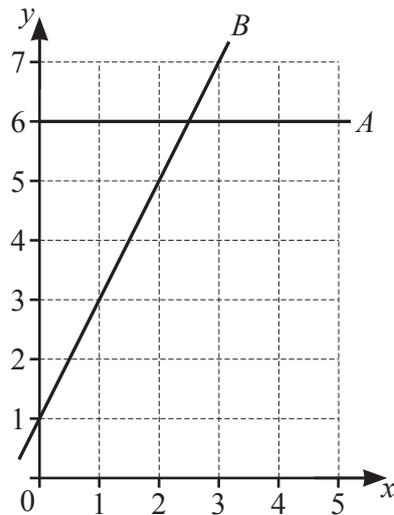
(a)  $y = f(x) + 2$ ,

..... [1]

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

..... [1]

**Question 22 is printed on the next page.**



(a) Write down the equation of line  $A$ .

..... [1]

(b) Find the equation of line  $B$ .

..... [3]

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge Assessment International Education Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at [www.cambridgeinternational.org](http://www.cambridgeinternational.org) after the live examination series.

Cambridge Assessment International Education is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of the University of Cambridge Local Examinations Syndicate (UCLES), which itself is a department of the University of Cambridge.