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**CAMBRIDGE INTERNATIONAL MATHEMATICS****0607/11**

Paper 1 (Core)

May/June 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 .

$$V = \frac{4}{3}\pi r^3$$

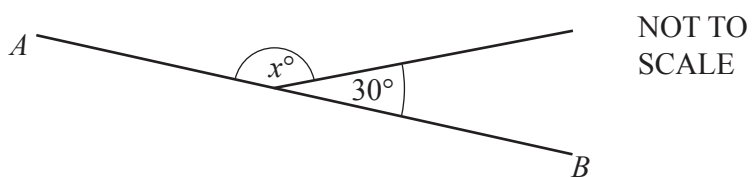
3Answer **all** the questions.

- 1** Write 73% as a fraction.

..... [1]

- 2** Write down all the factors of 11.

..... [1]

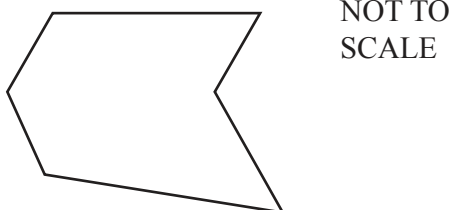
3

AB is a straight line.

Find the value of x .

 $x =$ [1]

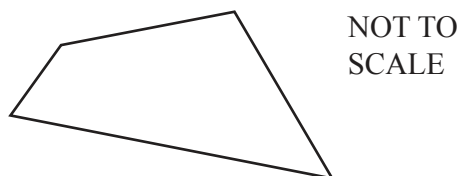
- 4 (a)**



Write down the mathematical name of this polygon.

..... [1]

- (b)**

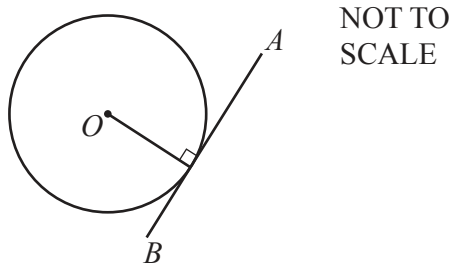


Write down the mathematical name of this polygon.

..... [1]

4

5

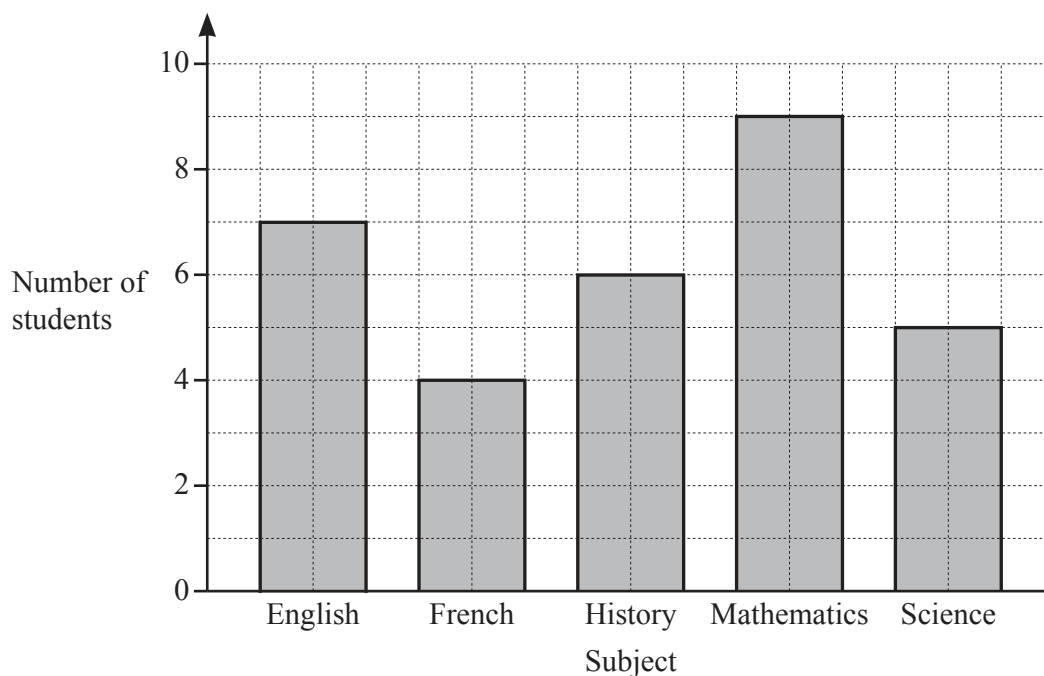


O is the centre of the circle.

Write down the mathematical name of the line AB .

..... [1]

6 The diagram shows the favourite subject of each student in a class.



Write down the number of students whose favourite subject is

(a) French,

..... [1]

(b) mathematics.

..... [1]

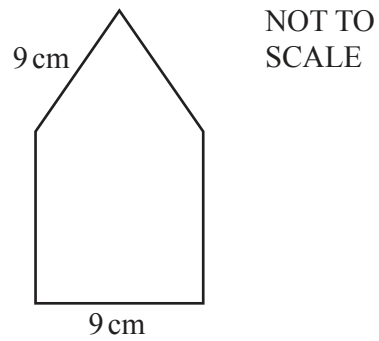
7 Work out.

$$30 - 5 \times 7 + 1$$

..... [1]

5

8

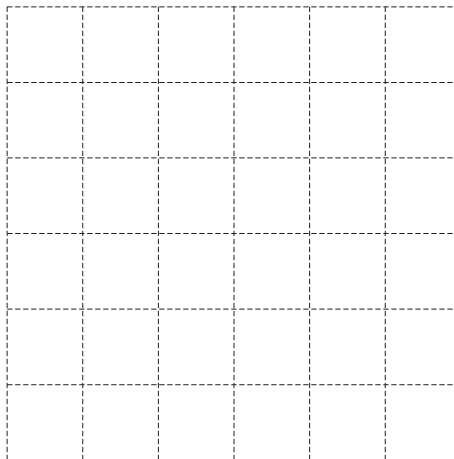


This shape is made from an equilateral triangle and a square.

Find the perimeter of this shape.

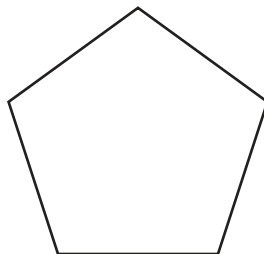
..... cm [2]

- 9 On the 1 cm^2 grid, draw a triangle with an area of 6 cm^2 .

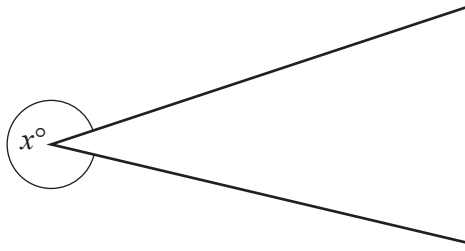


[1]

- 10 Draw all the lines of symmetry on this regular pentagon.



[2]

6**11**

Find, by measuring, the angle marked x .

..... [1]

12 Change 4m 25cm into millimetres.

..... mm [1]

13 Simplify the ratio 10:15 .

..... : [1]

14 Work out 2^5 .

..... [1]

15 Solve the equation.

$$4x + 1 = 6$$

$x =$ [2]

7

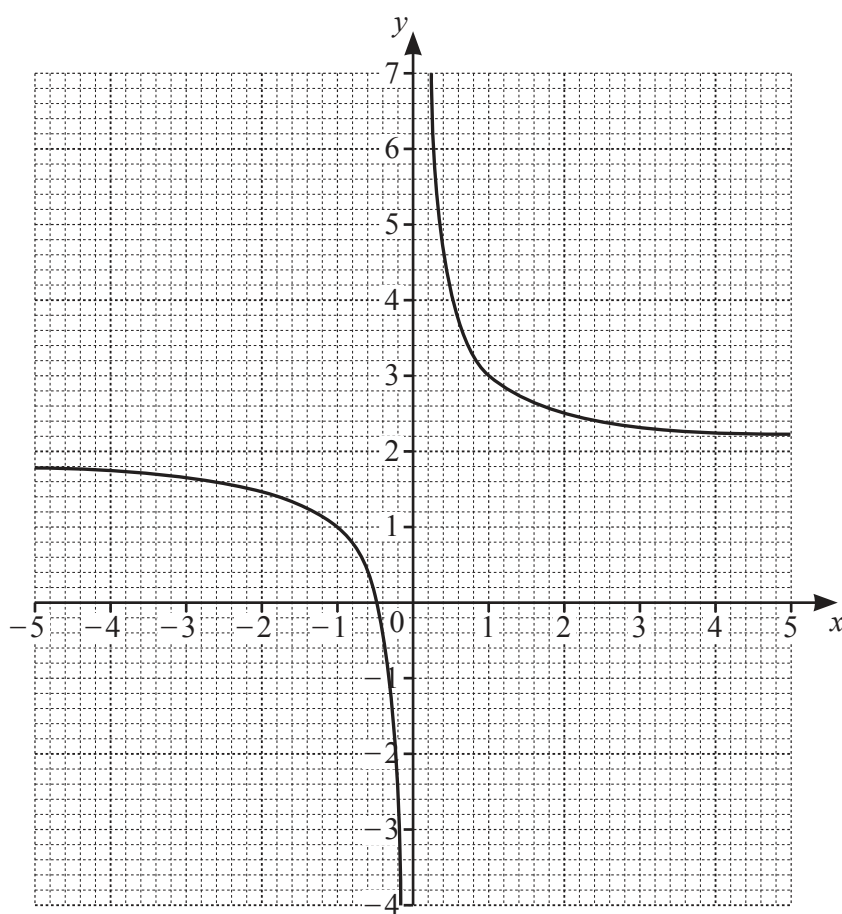
- 16 Find the coordinates of the mid-point of the line joining the point $(0, 0)$ to the point $(-2, 4)$.

(..... ,) [2]

- 17 Write down the integers that satisfy the inequality $3 < n < 7$.

..... [1]

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



Draw the horizontal asymptote for the graph of $y = f(x)$.

[1]

8

- 19** Apples are stored in boxes.
There are 100 apples in a box.
Two boxes are chosen at random and the apples are sorted into good and bad.

(a) Complete the table of results.

	Good	Bad	Total
Box 1		12	100
Box 2	95		100
Total	183		200

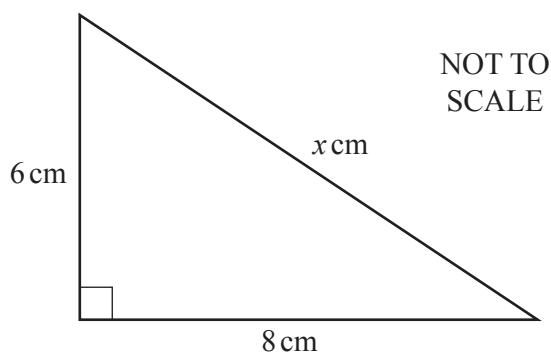
[2]

- (b) One of these 200 apples is chosen at random.

Write down the probability that this apple is good.

..... [1]

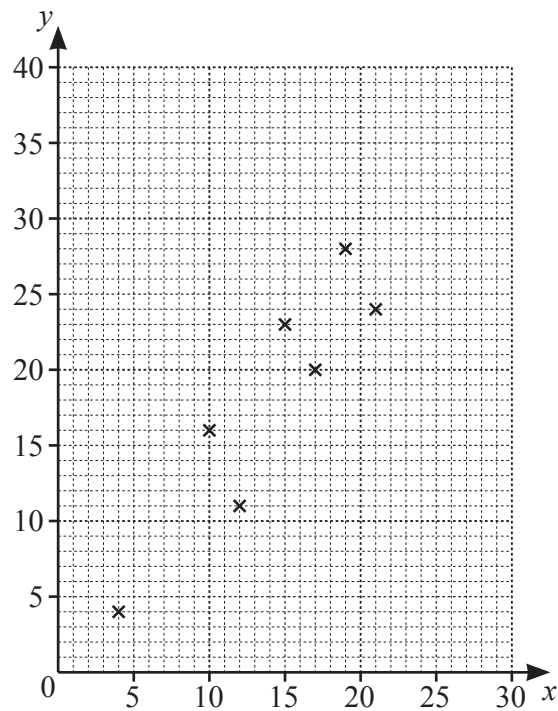
20



Work out the value of x .

$x =$ [2]

- 21** The scatter diagram shows a correlation between x and y .



- (a)** Write down the type of correlation shown in the scatter diagram.

..... [1]

- (b)** The mean point is $(14, 18)$.

- (i)** Draw the line of best fit.

[2]

- (ii)** Use your line of best fit to estimate the value of x when $y = 25$.

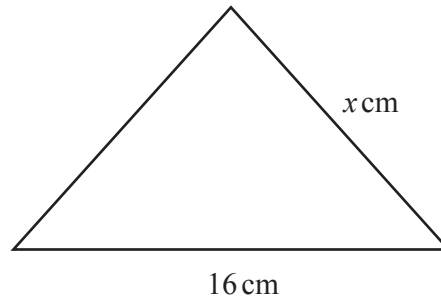
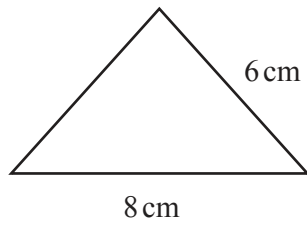
$x =$ [1]

- 22** A sphere has a radius of 3 cm.

Find the surface area of the sphere.

Give your answer in terms of π .

..... cm^2 [2]

10**23**NOT TO
SCALE

These triangles are similar.

Find the value of x .

$$x = \dots\dots\dots [1]$$

24 Describe fully the **single** transformation that maps $y = x^2$ onto $y = x^2 + 4$.

..... [2]

25 Solve the simultaneous equations.

$$\begin{aligned} 3x + y &= 13 \\ 2x + y &= 10 \end{aligned}$$

$$x = \dots\dots\dots$$

$$y = \dots\dots\dots [2]$$

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