UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

CAMBRIDGE INTERNATIONAL MATHEMATICS 0607/01

Paper 1 (Core) **October/November 2010**

45 minutes

Candidates answer on the Question Paper

Additional Materials: Geometrical Instruments

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.
Do not use staples, paper clips, highlighters, glue or correction fluid.
You may use a pencil for any diagrams or graphs.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** the questions.
CALCULATORS MUST NOT BE USED IN THIS PAPER.
All answers should be given in their simplest form.
You must show all the relevant working to gain full marks and you will be given marks for correct methods even if your answer is incorrect.
The number of marks is given in brackets [ ] at the end of each question or part question.
The total number of marks for this paper is 40.

For Examiner's Use

This document consists of **10** printed pages and **2** blank pages.

UNIVERSITY *of* CAMBRIDGE
International Examinations

[Turn over

www.theallpapers.com

Formula List

Area, A, of triangle, base b, height h. $\qquad A = \dfrac{1}{2}bh$

Area, A, of circle, radius r. $\qquad A = \pi r^2$

Circumference, C, of circle, radius r. $\qquad C = 2\pi r$

Curved surface area, A, of cylinder of radius r, height h. $\qquad A = 2\pi rh$

Curved surface area, A, of cone of radius r, sloping edge l. $\qquad A = \pi rl$

Curved surface area, A, of sphere of radius r. $\qquad A = 4\pi r^2$

Volume, V, of prism, cross-sectional area A, length l. $\qquad V = Al$

Volume, V, of pyramid, base area A, height h. $\qquad V = \dfrac{1}{3}Ah$

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

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

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

Answer **all** the questions.

1 **(a)** Find the lowest common multiple of 6 and 9.

Answer(a) .... [1]

(b) Work out $5^2 - 2^3$.

Answer(b) .... [2]

---

2 **(a)** Samir and Josef divide \$250 in the ratio 2 : 3.

Calculate how much money each receives.

Answer(a) Samir \$ ....

Josef \$ .... [2]

(b) A recipe for 3 people needs 600 g of pasta.

Work out how much pasta is needed for 8 people.

Answer(b) .... g [2]

---

3 *P*(2, 3) and *Q*(4, 7) are two points.

(a) Find the gradient of the line joining *P* and *Q*.

Answer(a) .... [2]

(b) Find the co-ordinates of the midpoint of the line joining *P* and *Q*.

Answer(b) (............... , ...) [1]

4
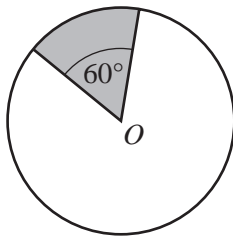
NOT TO SCALE

A circle, centre *O*, has an area of 600 cm².

Find the area of the shaded sector.

Answer .... cm² [2]

5 The heights of a number of students were measured.
The results are shown in the cumulative frequency diagram.
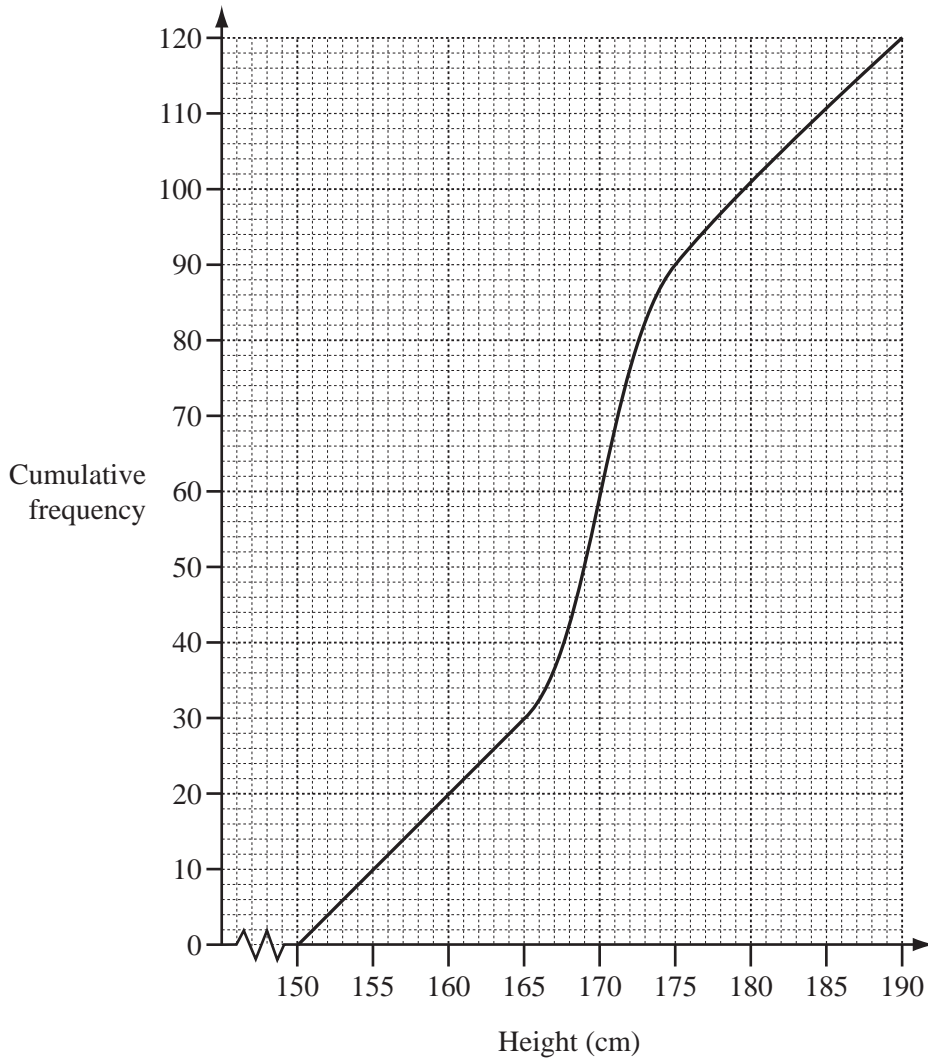
(a) How many students were measured?

Answer(a) .... [1]

(b) Find the interquartile range.

Answer(b) .... cm [2]

6

Diagram 1   Diagram 2   Diagram 3   Diagram 4

(a) Draw Diagram 4 in this sequence.   [1]

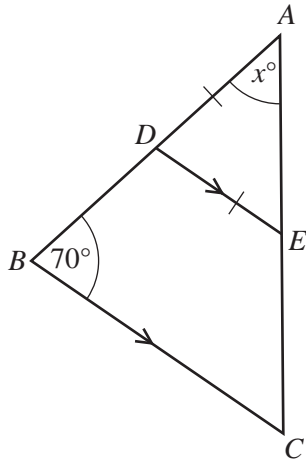**(b) (i)** Write down, as a sequence, the number of dots in each diagram.

Answer(b)(i) .... , ... , ... , ... [1]

(ii) Write down the *n*th term of this sequence.

Answer(b)(ii) .... [1]

7 Solve the simultaneous equations $2x = y + 8$ and $3x + 2y = 5$.

Answer x = ...

y = ... [4]

8 **(a)**

NOT TO
SCALE

In the diagram *DE* is parallel to *BC*.
AD = *DE* and angle *ABC* = 70°.

Find the value of *x*.

Answer(a) x = ... [2]

(b)
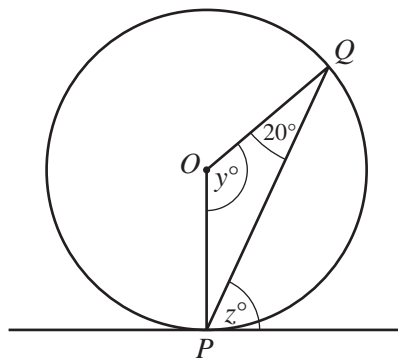
NOT TO
SCALE

The diagram shows a circle, centre *O*, with a tangent drawn at *P*.
Angle *OQP* = 20°.

Find the values of *y* and *z*.

Answer(b) y = ... [1]

z = ... [1]

9 **(a)** Expand the brackets and simplify.

$$3(x - y) - 2(x - 5y)$$

Answer(a) .... [2]

(b) Factorise completely.

$$3x^2 + 9xy^2$$

Answer(b) .... [2]

(c) Write as a single fraction.

$$\frac{2x}{3} - \frac{x}{5}$$

Answer(c) .... [2]

10
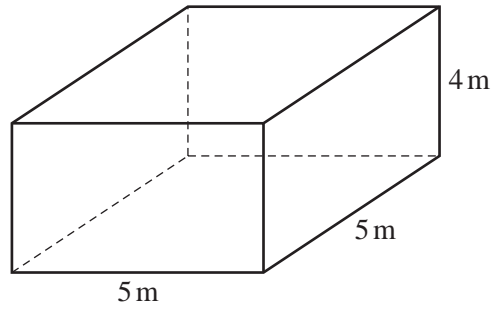
NOT TO SCALE

A cuboid has a square base of side 5 m and a height of 4 m.

(a) Calculate the volume of the cuboid.

Answer(a) .... m^3 [1]

(b) Calculate the total surface area of the cuboid.

Answer(b) .... m^2 [2]

11

Student	A	B	C	D	E	F	G	H
Test 1	25	20	40	25	50	20	30	40
Test 2	30	25	35	25	40	30	35	40

The table shows the marks scored by 8 students in two mathematics tests.
The marks for students A to F are shown on the scatter diagram below.
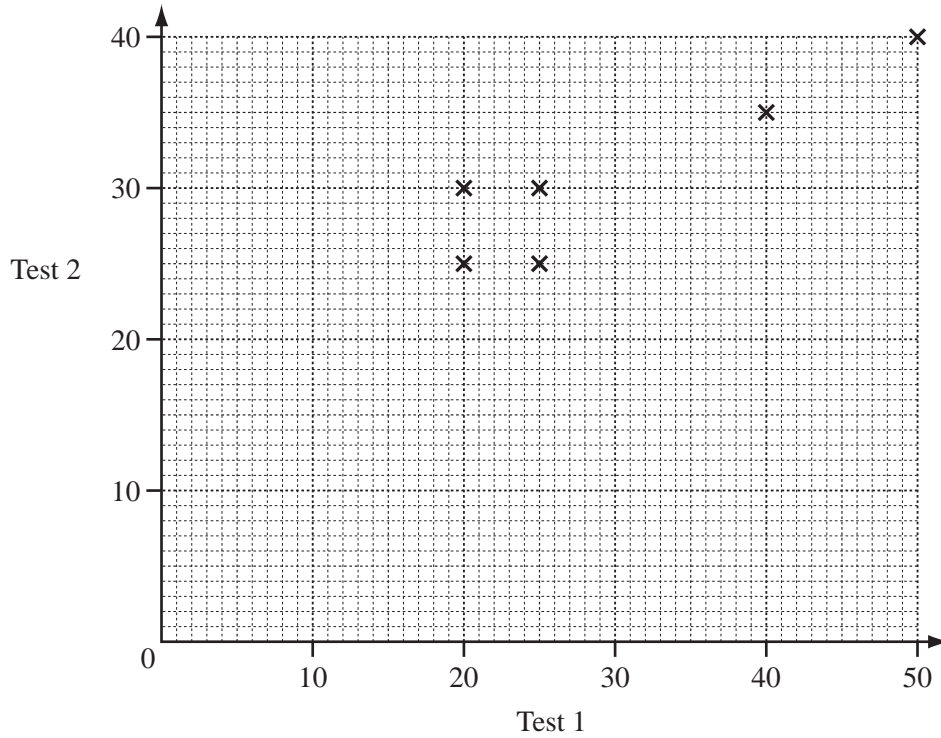
Test 2

Test 1

(a) On the diagram, plot the marks for students G and H. [1]

(b) The mean for Test 1 is 31.25.

Calculate the mean for Test 2.

Answer(b) .... [2]

(c) Plot the mean point on the scatter diagram. [1]

(d) Draw the line of best fit on the scatter diagram. [1]

BLANK PAGE

BLANK PAGE

www.theallpapers.com