



UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

CANDIDATE NAME

CENTRE NUMBER

CANDIDATE NUMBER

CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/11

Paper 1 (Core)

May/June 2012

45 minutes

Candidates answer on the Question Paper

Additional Materials: Geometrical Instruments

* 4 4 5 9 4 0 1 9 7 1 *

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 **9** printed pages and **3** blank pages.

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 .

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

Answer **all** the questions.

1 (a) Work out $(4 - 7)^2$.

Answer (a) [1]

(b) Write down the value of $\sqrt{144}$.

Answer (b) [1]

2 (a) Write 0.00724538 correct to 3 significant figures.

Answer (a) [1]

(b) Write your answer to **part (a)** in standard form.

Answer (b) [1]

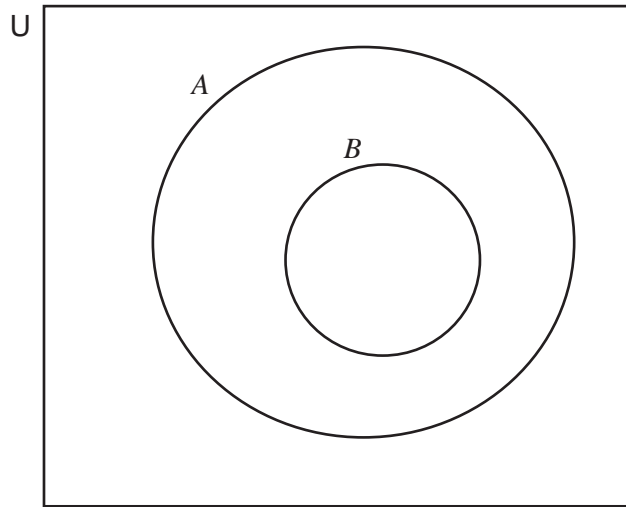
3 (a) Write down the first three multiples of 6.

Answer (a) , , [1]

(b) Find the lowest common multiple of 6 and 15.

Answer (b) [2]

4 In the Venn diagram shade the region $A \cap B'$.



[1]

5 Peter buys one ticket in the school raffle.
The school sells 1000 tickets.
The winning ticket is drawn at random.

What is the probability that Peter does **not** have the winning ticket?

Answer

[2]

6 (a) Simplify.

$$7(x - 2) - 3(3 + x)$$

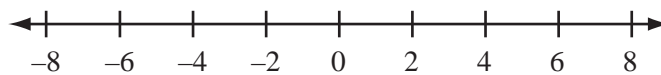
Answer (a) [2]

(b) Solve the inequality.

$$7(x - 2) - 3(3 + x) < 1$$

Answer (b) [2]

(c) Show your answer to **part (b)** on the number line below.



[2]



7 (a) Write as a single fraction.

$$\frac{3x}{4} + \frac{x}{3}$$

Answer (a) [2]

(b) Simplify.

$$\frac{18x^7}{6x^5}$$

Answer (b) [2]

8 The first five terms of a sequence are 2, 5, 10, 17, 26.

(a) Write down the next term in this sequence.

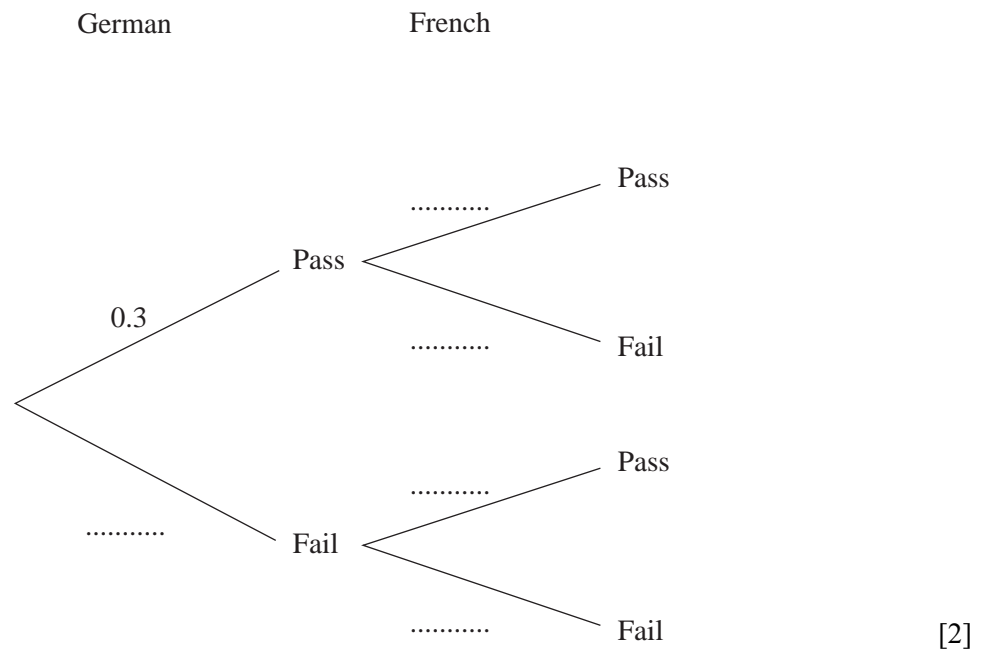
Answer (a) [1]

(b) Find the n th term of this sequence.

Answer (b) [3]

9 Alice takes examinations in German and French.
The probability that she passes German is 0.3 .
The probability that she passes French is 0.6 .

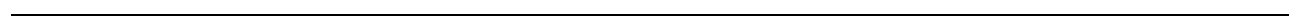
(a) Complete the tree diagram.



(b) Work out the probability that Alice passes German and fails French.

Answer (b)

[2]



10 Lucy counts the number of words in each sentence of a film review.
The number of words in each sentence is shown below.

7 8 12 7 9 11 4 12 8 12

Find

(a) the mode,

Answer (a) [1]

(b) the mean,

Answer (b) [2]

(c) the range.

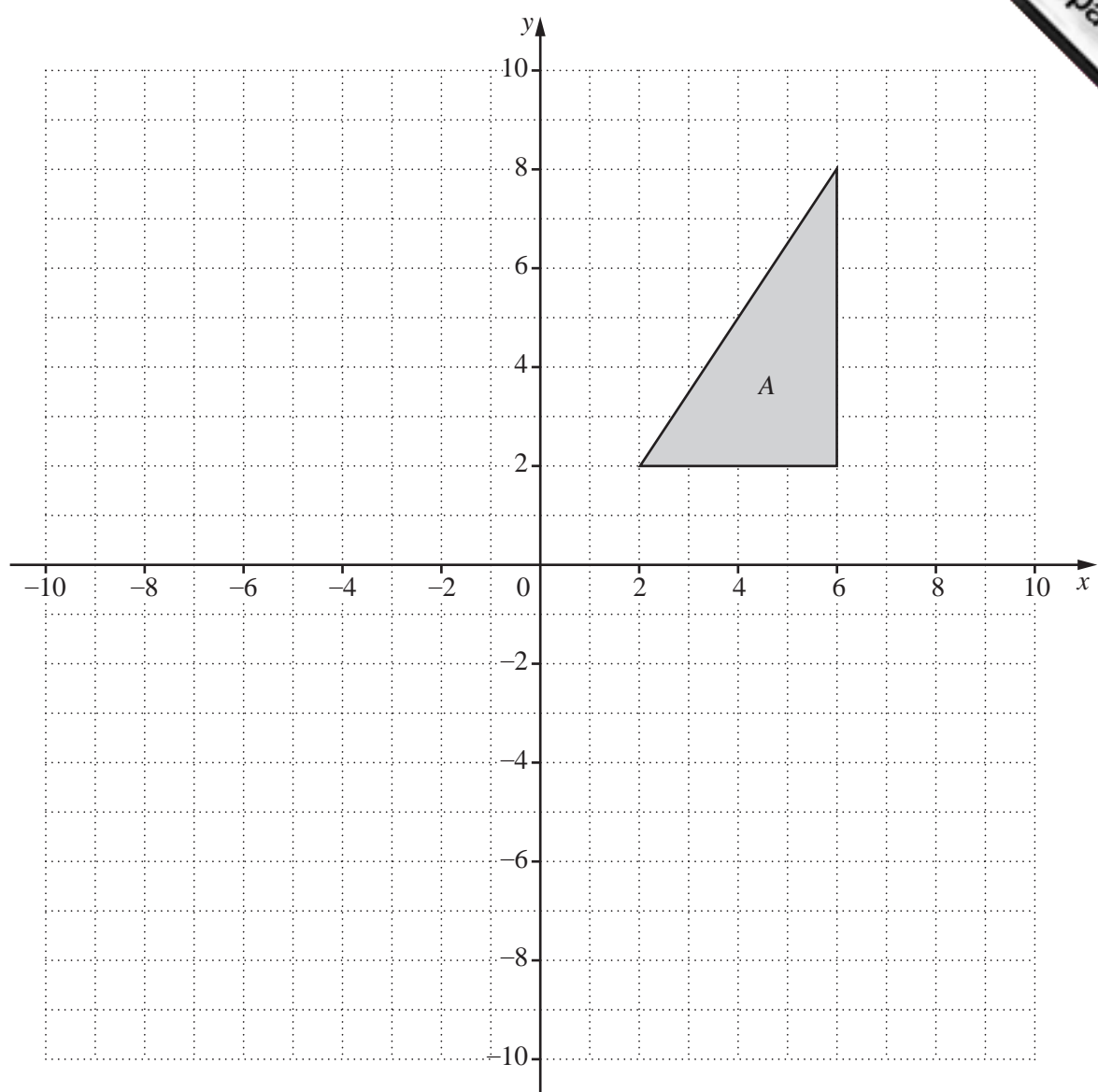
Answer (c) [1]

11 One lap of the Melbourne Grand Prix circuit is 5200 metres.
A racing driver completes a lap in 1.3 minutes.

Calculate his average speed in **kilometres per hour**.

Answer km/h [3]

12



- (a) Reflect triangle *A* in the *x*-axis.
Label it *B*. [1]

 - (b) Translate triangle *A* by the vector $\begin{pmatrix} -6 \\ -10 \end{pmatrix}$.
Label it *C*. [2]

 - (c) Rotate triangle *A* 90° anti-clockwise about centre (2, 2).
Label it *D*. [2]
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10
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11
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