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RECOGNISING ACHIEVEMENT

GENERAL CERTIFICATE OF SECONDARY EDUCATION

MATHEMATICS C (GRADUATED ASSESSMENT)

M6 **B246B**

MODULE M6 – SECTION B

TUESDAY 13 MARCH 2007

Morning

Time: 30 minutes

Candidates answer on the question paper.
Additional materials: Geometrical instruments
                         Tracing paper (optional)
                         Scientific or graphical calculator

Candidate Name	

Centre Number					

Candidate Number				

INSTRUCTIONS TO CANDIDATES

• Write your name, Centre Number and Candidate Number in the boxes above.
• Answer **all** the questions.
• Use blue or black ink. Pencil may be used for graphs and diagrams only.
• Read each question carefully and make sure you know what you have to do before starting your answer.
• In many questions marks will be given for a correct method even if the answer is incorrect.
• Do **not** write in the bar code.
• Do **not** write outside the box bordering each page.
• WRITE YOUR ANSWER TO EACH QUESTION IN THE SPACE PROVIDED. ANSWERS WRITTEN ELSEWHERE WILL NOT BE MARKED.

INFORMATION FOR CANDIDATES

• You are expected to use a calculator in Section B of this paper.
• The number of marks is given in brackets [ ] at the end of each question or part question.
• The total number of marks for this Section is 25.
• Section B starts with question 7.
• Use the π button on your calculator or take π to be 3·142 unless the question says otherwise.

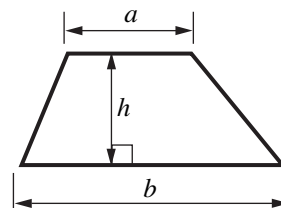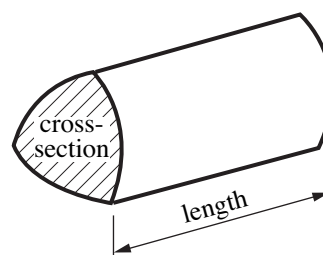| For Examiner's Use	
Section B	

This document consists of **8** printed pages.

2

Formulae Sheet

Area of trapezium $= \frac{1}{2}(a + b)h$

Volume of prism = (area of cross-section) × length

PLEASE DO NOT WRITE ON THIS PAGE

3

7 City play United at football.

The probability that City win is 0·3.
The probability that the game is a draw is 0·05.

What is the probability that City lose?

.... [2]

2

8 Calculate.

(a) $3·5^2 + \sqrt{2·25}$

(a) .... [1]

(b) $\dfrac{24·5 + 8·74}{3·14 - 2·3}$

Give your answer correct to 1 decimal place.

(b) .... [2]

3

[Turn over

9 **(a)** Multiply out.

$$2(3x + 5)$$

(a) .... [1]

(b) Factorise.

$$8x + 12$$

(b) .... [1]

2 [ ]

10 Work out.

Give each answer as a fraction and show your working clearly.

(a) $\frac{3}{4} - \frac{1}{5}$

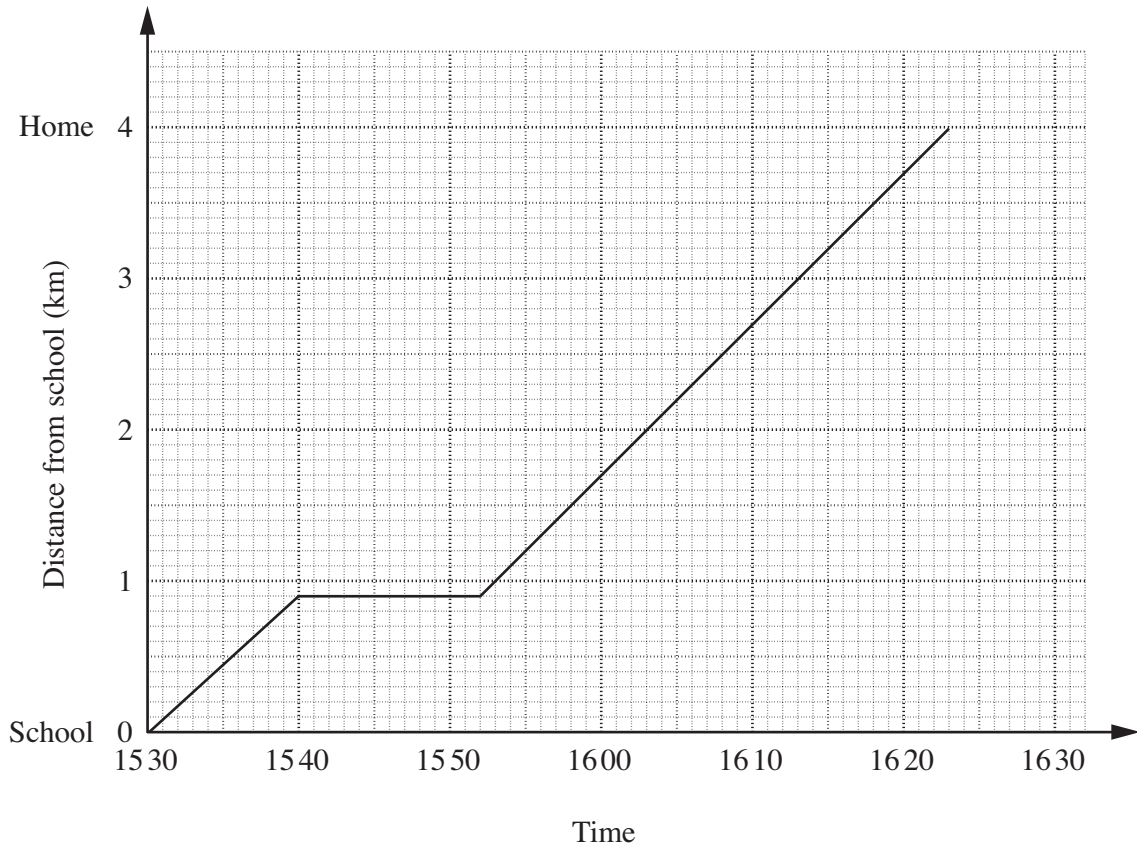**(a)** .... [2]

(b) $\frac{3}{8} \div \frac{2}{5}$

(b) .... [2]

4 [ ]

11 Carl walked home from school.
   The graph below represents his journey.

(a) Carl stopped to talk to a friend.

   For how long did he stop?

   (a) .... minutes [1]

(b) How far was Carl from **home** at 16 10?

   (b) .... km [2]

   | 3 |

[Turn over

12 **(a)** During one hour a garage sold 2750 litres of petrol
and 1750 litres of diesel.

Work out the ratio of petrol to diesel.
Give your answer in its simplest form.

(a) .... : .... [2]

(b) One day, both Peter and Jane bought petrol at the same garage.

Peter paid £24·05 for 26 litres.
Jane bought 32 litres.

Work out the cost of 32 litres of petrol.

(b) £ .... [2]

4

13
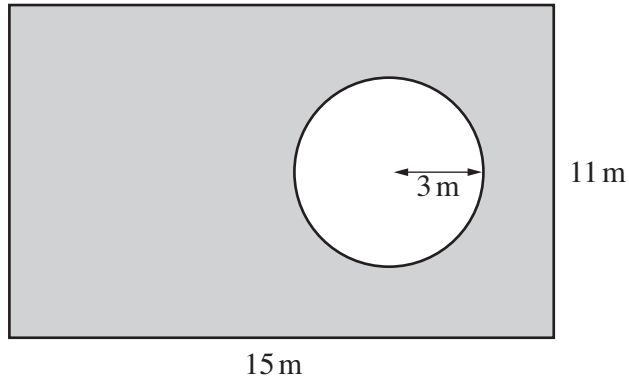
Not to scale

The diagram shows a garden with a circular fish pond.

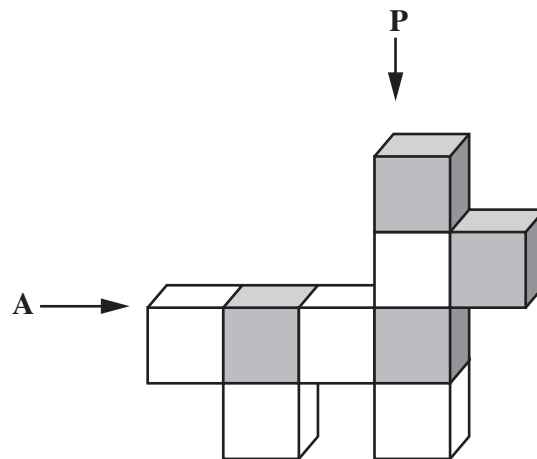The garden is a rectangle 15 m by 11 m.
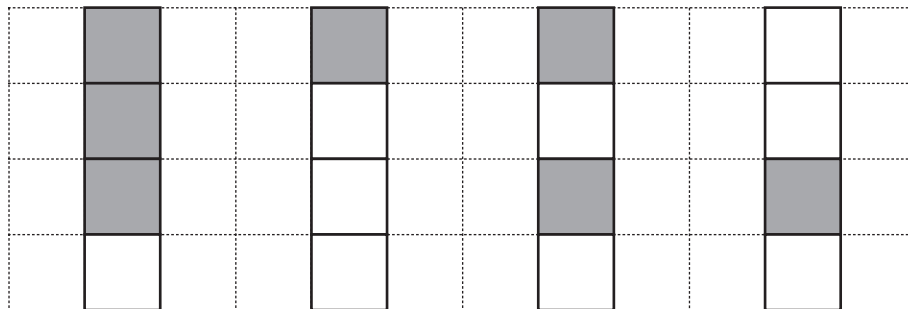The radius of the pond is 3 m.

Calculate the shaded area.

.... m^2 [4]

4

TURN OVER FOR QUESTION 14

[Turn over

14 This shape is made with four black and five white centimetre cubes.

(a) Which of the following is the correct view from A.
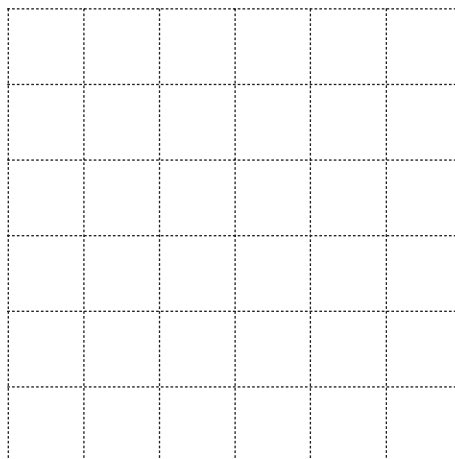Put a tick (✓) under the correct view.

....   [1]

(b) On the grid below draw the view from P.

[2]

3