



Rewarding Learning

Centre Number

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Candidate Number

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General Certificate of Secondary Education  
January 2018

## Mathematics

Unit T5 Paper 1  
(Non-calculator)

Foundation Tier



MV18

[GMT51]

**WEDNESDAY 10 JANUARY, 9.15am–10.15am**

### Time

1 hour, plus your additional time allowance.

### Instructions to Candidates

Write your Centre Number and Candidate Number in the spaces provided at the top of this page.

**You must answer the questions in the spaces provided.**

**Do not write on blank pages or tracing paper.**

Complete in black ink only.

Answer **all sixteen** questions.

All working should be clearly shown in the spaces provided.

Marks may be awarded for partially correct solutions.

**You must not** use a calculator for this paper.

## Information for Candidates

The total mark for this paper is 50.

Figures in brackets printed at the end of each question indicate the marks awarded to each question or part question.

Functional Elements will be assessed in this paper.

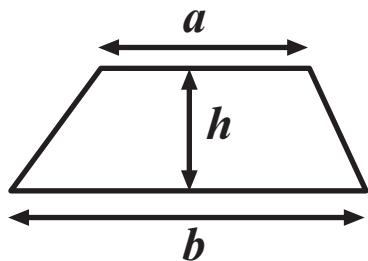
Quality of written communication will be assessed in Questions **8(b)** and **16**.

You should have a ruler, compasses and a protractor.

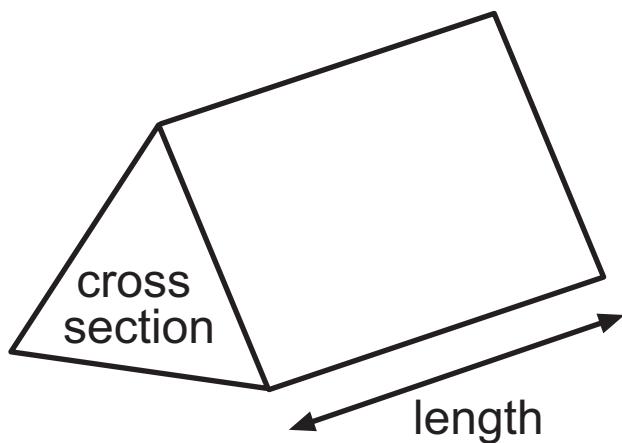
The Formula Sheet is on page 3.

# Formula Sheet

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



$$\text{Volume of prism} = \text{area of cross section} \times \text{length}$$



1 (a) Estimate the value of  $355 \div 9.2$  [1 mark]

Answer \_\_\_\_\_

(b) Estimate the value of  $118.5 \times 46$  [1 mark]

Answer \_\_\_\_\_

2

IT Repairs

Total charge = Callout charge of £55

+

£30 per hour

Computer Fix

£52 per hour

No Callout charge

Sandra's computer needs a repair which will involve three hours' work.

Which company will charge more and by how much?  
[4 marks]

Answer \_\_\_\_\_ by £ \_\_\_\_\_

3

1	3	3	5	3	3	3	7	3	3	3	3	9
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One number is taken at random from the list above.

Complete each of the following. [1 mark for each]

(a) It is impossible that the number taken is \_\_\_\_\_

(b) It is likely that the number taken is \_\_\_\_\_

(c) It is unlikely that the number taken is \_\_\_\_\_

(d) It is certain that the number taken is

\_\_\_\_\_

4

A	276.9
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B	$276.9 \times 0.998$
---	----------------------

C	$276.9 \times 1.001$
---	----------------------

Without calculating the answers,

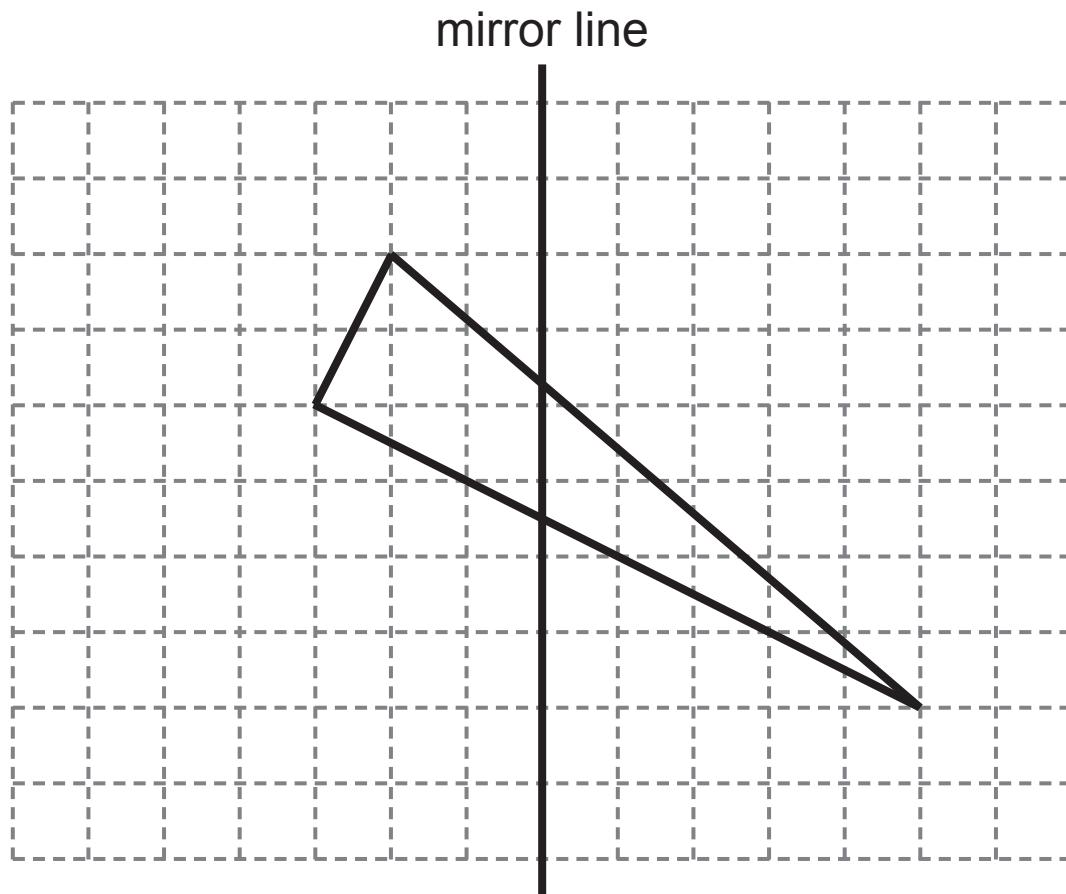
(a) which is largest, A, B or C ? [1 mark]

Answer \_\_\_\_\_

(b) which is smallest, A, B or C ? [1 mark]

Answer \_\_\_\_\_

5 Reflect the triangle in the mirror line. [2 marks]



6 Circle the imperial unit which is the odd one out in each list.  
[1 mark for each]

(a) foot      yard      pint      mile      inch

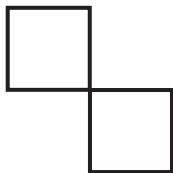
(b) ounce      gallon      ton      stone

7 State the order of rotational symmetry for each of the shapes shown. [1 mark for each]

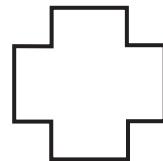
(a)



(b)



(c)



Answer \_\_\_\_\_

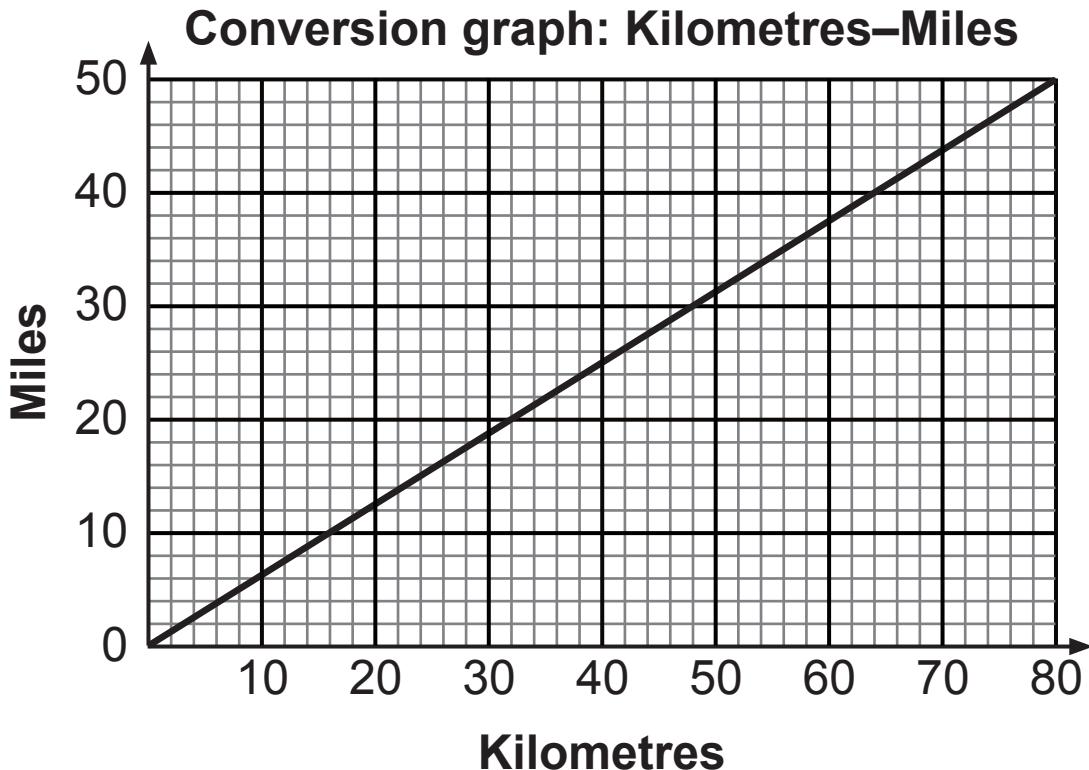
Answer \_\_\_\_\_

Answer \_\_\_\_\_

**Blank Page**

**(Questions continue overleaf)**

8



Use the graph to answer the following questions.

(a) Anita is driving at 30 miles per hour.

What is this speed in kilometres per hour? [1 mark]

Answer \_\_\_\_\_ km/h

**Quality of written communication will be assessed in this question.**

**(b)** Jill's dad drives at 100 kilometres per hour on the motorway.

The speed limit on the motorway is 70 miles per hour.

Is Jill's dad driving over the speed limit?

Explain your answer showing clearly how you used the graph. [2 marks]

Answer \_\_\_\_\_

because \_\_\_\_\_

9 A fair dice is rolled once.

John marks the probabilities of three events happening with an arrow on the scale.

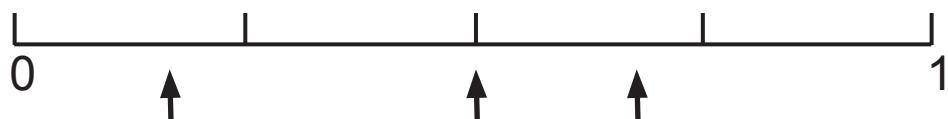
The events are: Event A getting a number less than 5

Event B getting an even number

Event C getting the number 3

Write the correct letter below each of the arrows.

[3 marks]



**10 (a)** Round 0.898 to 2 decimal places. [1 mark]

Answer \_\_\_\_\_

**(b)** Estimate  $\sqrt{76}$  [1 mark]

Answer \_\_\_\_\_

**(c)** Calculate  $14 + 8 \div 2$  [1 mark]

Answer \_\_\_\_\_

**(d)** Round 0.0358 to 2 significant figures. [1 mark]

Answer \_\_\_\_\_

11 In Tom's pencil case there are 4 black pens and 2 blue pens.

In Paul's pencil case there are 10 pens of which 6 are black.

Tom and Paul each take a pen at random from his own pencil case.

(a) What is the probability that Tom takes a blue pen from his pencil case? [1 mark]

Answer \_\_\_\_\_

(b) What is the probability that Paul takes a pen which is not black from his pencil case? [1 mark]

Answer \_\_\_\_\_

(c) Who is more likely to take a black pen from his own pencil case? [2 marks]

Explain your answer clearly.

Answer \_\_\_\_\_

because \_\_\_\_\_

12

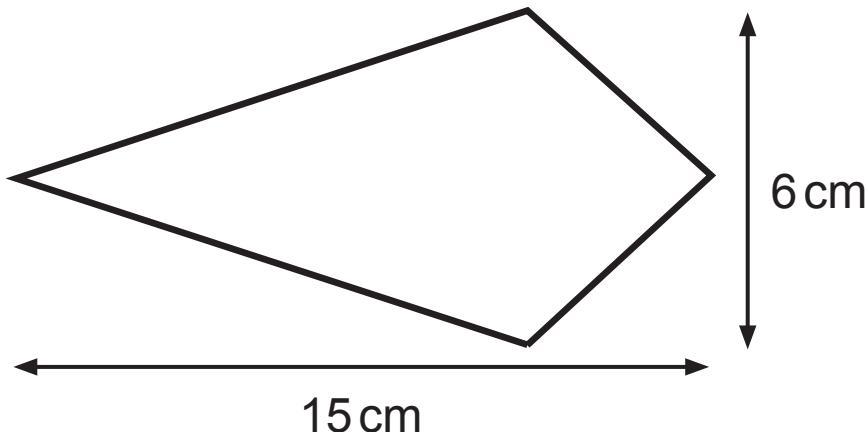


diagram  
not drawn  
accurately

Calculate the area of this kite. [2 marks]

Answer \_\_\_\_\_ cm<sup>2</sup>

13

$$V = \frac{WX^2}{2}$$

Work out the value of  $V$  when  $W = 4$  and  $X = -3$  [2 marks]

Answer  $V =$  \_\_\_\_\_

14 (a)



Let 'S' stand for salary.

Write down an inequality which satisfies the salary figures given. [1 mark]

Answer \_\_\_\_\_

(b) List all the possible integer values for  $x$  which satisfy the inequality [1 mark]

$$-3 < x \leq 1$$

Answer  $x =$  \_\_\_\_\_

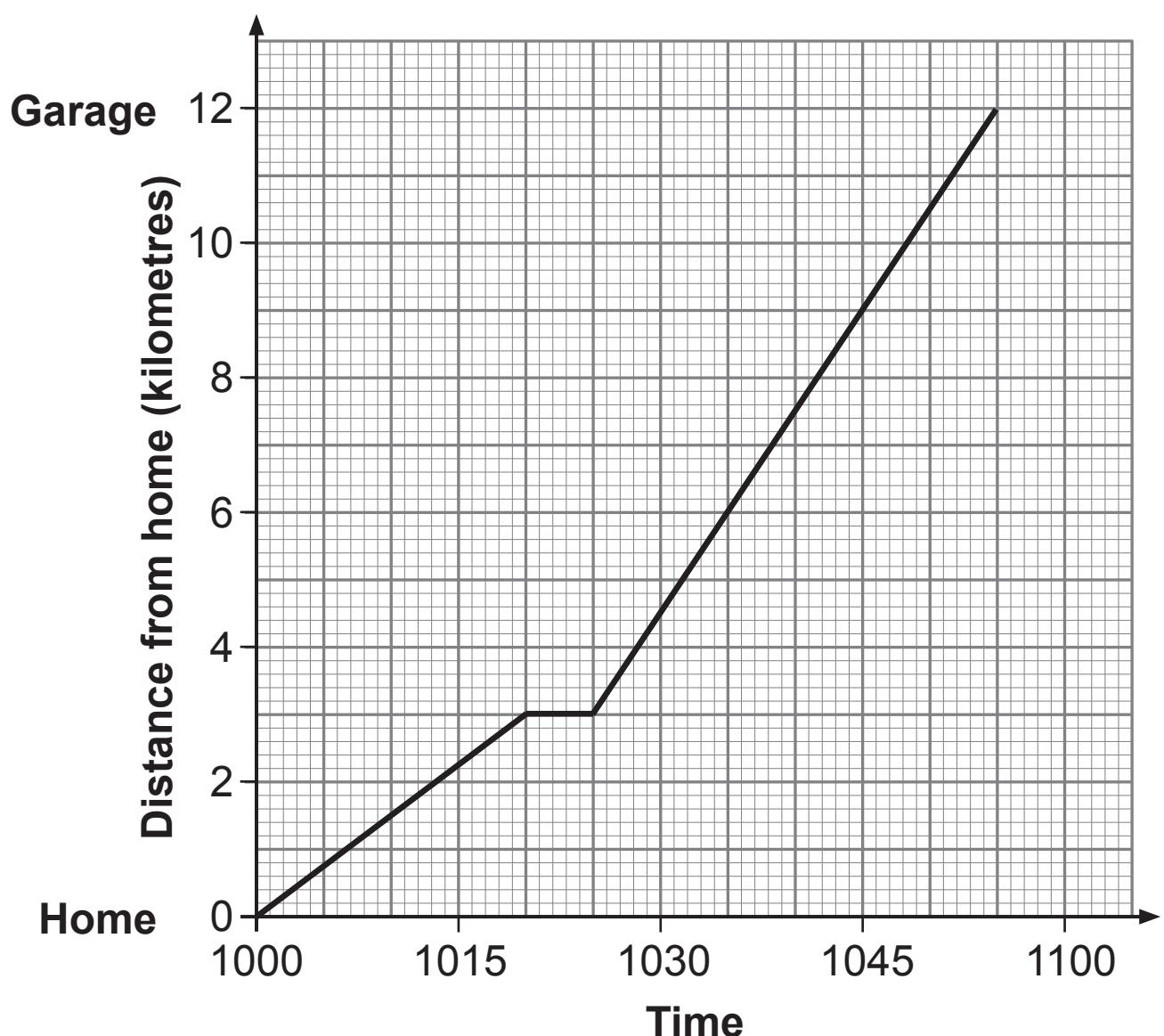
**(c) Solve the inequality**

$$2(2x - 4) > 28 \quad [3 \text{ marks}]$$

Answer \_\_\_\_\_

15 Adam jogs from home to a garage.

His journey is shown on the graph below.



(a) What is Adam's average speed on the first part of his journey? [2 marks]

Answer \_\_\_\_\_ km/h

(b) Adam's brother Ben leaves the garage at 1010 and cycles home at an average speed of 22 km/h.

Show Ben's journey on the graph opposite.

Hence find the time when Adam and Ben pass each other. [4 marks]

Answer \_\_\_\_\_

**Quality of written communication will be assessed in this question.**

**16**  $a$  is an odd number and  $b$  is an even number.

Which of the statements below describes the number  $(a + b)^2$ ?

“always even”      “always odd”      “could be even or odd”

Explain your answer. [2 marks]

Answer \_\_\_\_\_

because \_\_\_\_\_

\_\_\_\_\_

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**THIS IS THE END OF THE QUESTION PAPER**

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For Examiner's use only	
Question Number	Marks
1	
2	
3	
4	
5	
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8	
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11	
12	
13	
14	
15	
16	

Total Marks	
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Examiner Number	
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