

Surname	Centre Number	Candidate Number
Other Names		0



GCSE LINKED PAIR PILOT

4363/01



S16-4363-01

METHODS IN MATHEMATICS UNIT 1: Methods (Non-Calculator) FOUNDATION TIER

A.M. THURSDAY, 26 May 2016

1 hour 30 minutes

**CALCULATORS ARE
NOT TO BE USED
FOR THIS PAPER**

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	13	
2.	4	
3.	2	
4.	9	
5.	3	
6.	4	
7.	5	
8.	7	
9.	6	
10.	5	
11.	6	
12.	2	
13.	7	
14.	7	
Total	80	

INSTRUCTIONS TO CANDIDATES

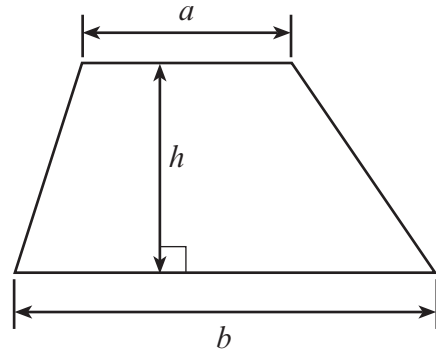
Use black ink or black ball-point pen.
Write your name, centre number and candidate number in the spaces at the top of this page.
Answer **all** the questions in the spaces provided.
Take π as 3.14.

INFORMATION FOR CANDIDATES

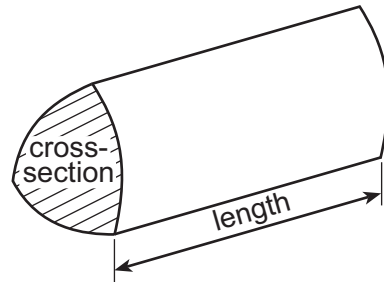
You should give details of your method of solution when appropriate.
Unless stated, diagrams are not drawn to scale.
Scale drawing solutions will not be acceptable where you are asked to calculate.
The number of marks is given in brackets at the end of each question or part-question.
You are reminded that assessment will take into account the quality of written communication (including mathematical communication) used in your answer to question **8**.

Formula List

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



Volume of prism = area of cross-section \times length



1. (a) (i) Write, in figures, the number five thousand and three. [1]

.....

(ii) Write, in words, the number 35201. [1]

.....

(b) (i) Work out the sum of 53 and 48. [1]

.....

(ii) Work out the difference between 73 and 47. [1]

.....

(iii) Write the answer when 9 is multiplied by 11. [1]

.....

(iv) Write the answer when 96 is divided by 8. [1]

.....

(c) (i) Write 2463 correct to the nearest 10. [1]

.....

(ii) Write 35 703 correct to the nearest 1000. [1]

.....

(d) (i) Write **all** the factors of 20. [2]

.....

(ii) Write **two** multiples of 6. [1]

.....

(e) Write the next term in the following sequence and describe the rule for continuing the sequence. [2]

3, 11, 19, 27,

Rule:

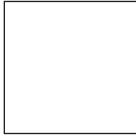
2. Complete the table below by

- drawing the quadrilaterals,
- selecting one **different** special property for each of them from the following list.

One has been done for you.

- A:** The diagonals meet at right angles.
B: All the sides are equal in length.
C: The sum of the interior angles is 400° .
D: Only one pair of sides are parallel.
E: The opposite angles are equal, but do not equal 90° .
F: All the sides are parallel.
G: The opposite sides have the same length.

[4]

Quadrilateral	Drawing	Property
Square		B
Rectangle		
Trapezium		
Parallelogram		
Kite		

3. A spinner has three colours: red, yellow and green.

The probability that the spinner lands on yellow is equal to the probability of landing on green.

Complete the table below.

[2]

Colour	Red	Yellow	Green
Probability	0.4		

.....

.....

.....

4. Calculate each of the following.

(a) $753 - 207$

[1]

.....

.....

.....

(b) $213 \div 3$

[1]

.....

.....

.....

(c) 417×23

[3]

.....

.....

.....

.....

.....

(d) 7×0.6

[1]

.....

.....

(e) 0.4×0.1

[1]

.....

.....

(f) $27 - 4 \times 5$

[1]

.....

.....

(g) $30 \div (2 + 4)$

[1]

.....

.....

5. Match each of the boxes on the left with a box on the right.

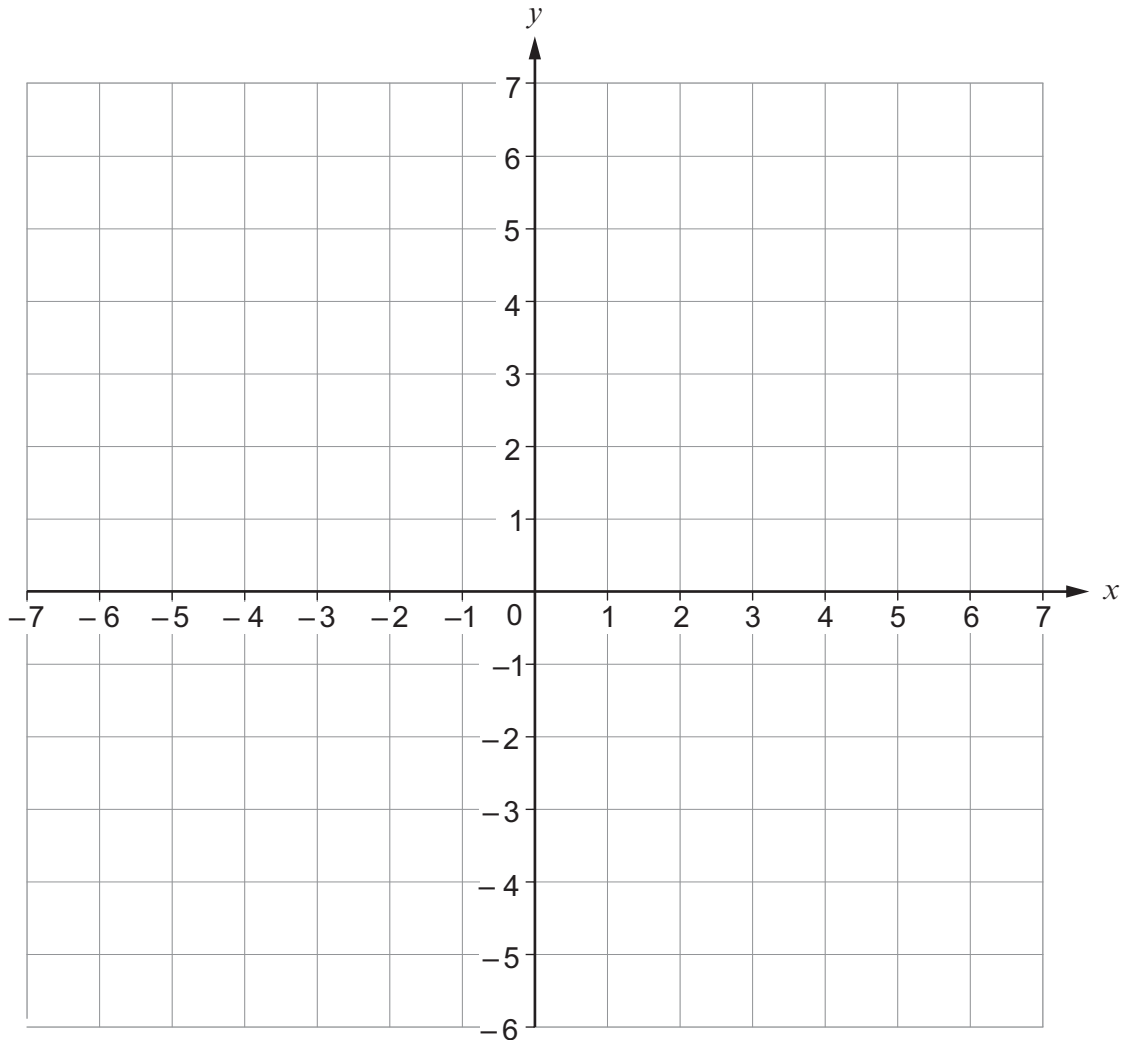
One has been done for you.

[3]

$\text{number} \times 2 \times 3$	$\text{number} \times 5$
$\text{number} \times 20 \div 4$	$\text{number} \times 6$
$\text{number} \div 2 \times 100$	$\text{number} \div 2$
$\text{number} \times \frac{1}{4}$	$\text{number} \times 0.25$
$\text{number} \times 0.5$	$\text{number} \times 50$
$\text{number} \div 4 \times 8$	$\text{number} \times 2$

6. (a) Plot the following points on the grid below.

[3]

A (2, 1)**B** (-4, -2)**C** (-6, 2)

- (b) The plotted points are three vertices (corners) of a rectangle.
Write down the coordinates of the fourth vertex (corner).

[1]

(..... ,)

7. (a) Write $\frac{3}{4}$, $\frac{9}{10}$, and $\frac{5}{8}$ in **descending order**.
Show all your working.

[3]

.....

.....

.....

.....

.....

.....

.....

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.....

- (b) Write 40p as a fraction of £2 in its simplest form.

[2]

.....

.....

.....

9. (a) Calculate the size of angle x .

[2]

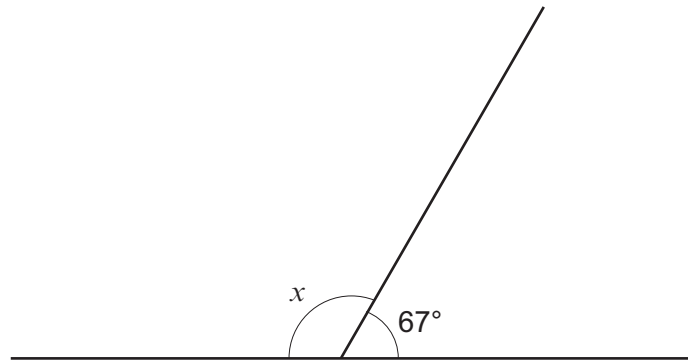


Diagram not drawn to scale

.....

(b)

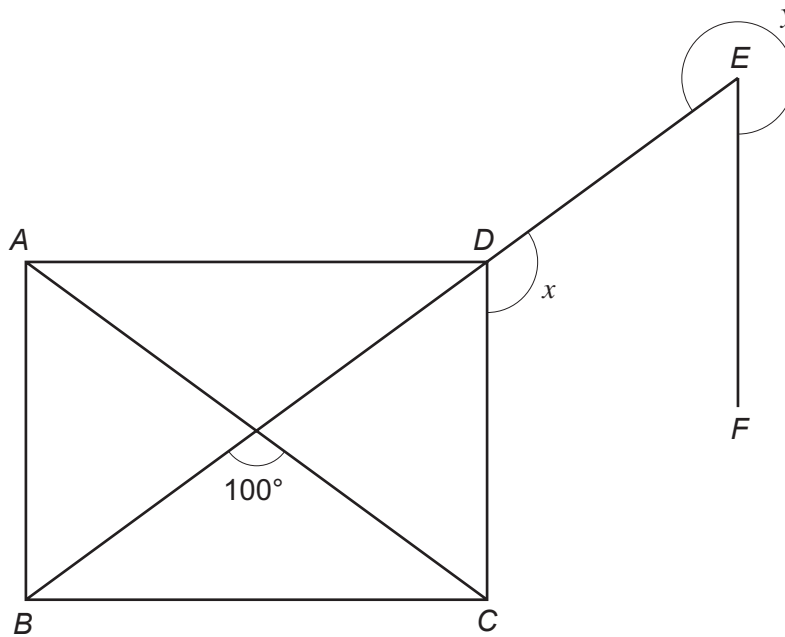


Diagram not drawn to scale

$ABCD$ is a rectangle.
 CD is parallel to FE .

Calculate the size of angles x and y .
 It may help to show your working on the diagram.

[4]

.....

$x = \dots\dots\dots^\circ$ $y = \dots\dots\dots^\circ$

10. (a) Complete the following table.

[3]

Fraction	Decimal	Recurring or terminating?
$\frac{1}{3}$	$0.\dot{3}$
$\frac{5}{8}$
$\frac{3}{11}$

.....

.....

.....

.....

.....

(b) A number is multiplied by 12 and then 56 is added before finally dividing by 100. This leads to an answer of 2. What is the original number?

[2]

.....

.....

.....

.....

.....

Original number is

11. (a) Simplify $x + 9x + 3x$.

[1]

.....

(b) Simplify $20a + 5b - 25a + 2b$.

[2]

.....

(c) Given that $d = -2$, $e = 3$ and $f = 5$, find the value of each of the following.

(i) d^3

[1]

.....

(ii) $e^2 + df$

[1]

.....

.....

(iii) $\frac{1}{f}(e - d)$

[1]

.....

.....

.....

.....

.....

12. Calculate the larger amount when £440 is divided in the ratio 5 : 6.

[2]

.....

.....

.....

.....

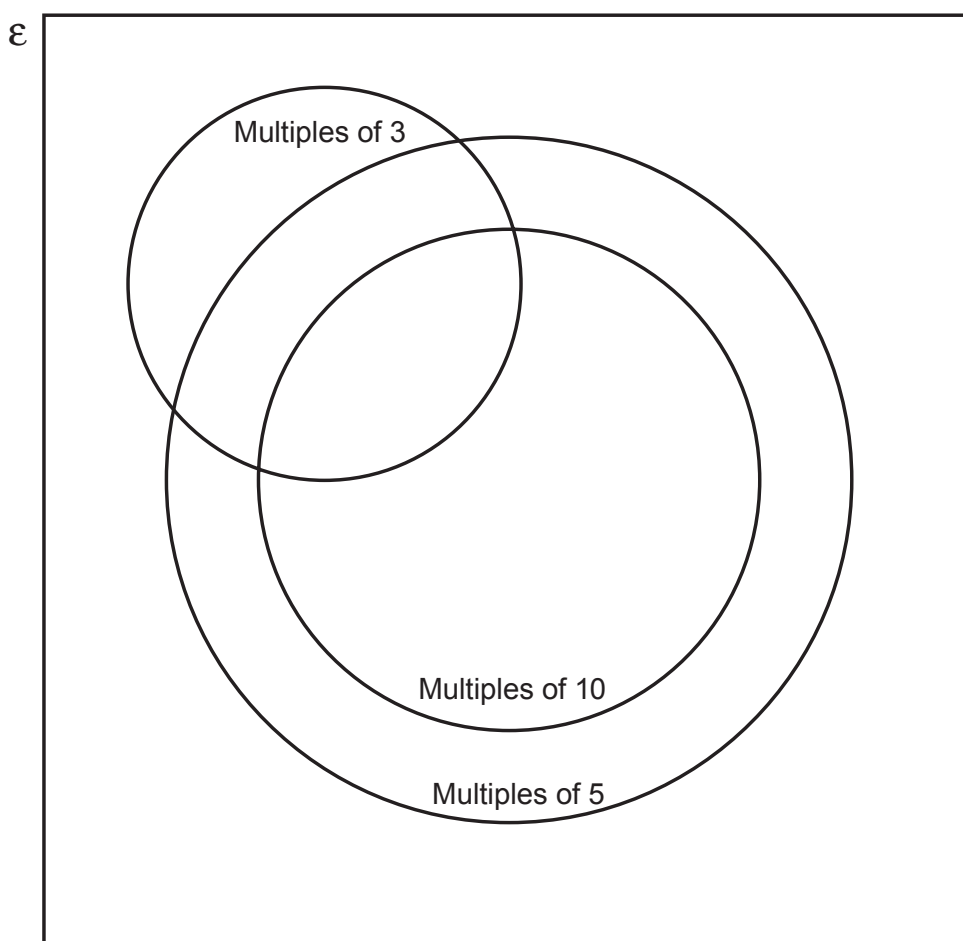
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13. (a) A Venn diagram is shown below.
Explain why the circle to represent multiples of 10 is drawn inside the circle to represent multiples of 5. [1]

.....

.....

.....



- (b) (i) Place each of the six numbers 30, 32, 33, 35, 40, 45 in the correct position in the Venn diagram. [3]

- (ii) A number is selected at random from the set {30, 32, 33, 35, 40, 45}.

Find the probability that the number selected is

a prime number,

a multiple of 10 that is also a multiple of 3,

neither a multiple of 3 nor 10.

[3]

