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|----------------|---------------|--|--|--|------------------|--|--|--|
| Candidate Name | Centre Number |  |  |  | Candidate Number |  |  |  |
|                |               |  |  |  | 0                |  |  |  |



**GCSE**

**MATHEMATICS  
UNIT 2: CALCULATOR-ALLOWED  
FOUNDATION TIER**

**2<sup>nd</sup> SPECIMEN PAPER SUMMER 2017**

**1 HOUR 30 MINUTES**

**ADDITIONAL MATERIALS**

A calculator will be required for this paper.  
A ruler, protractor and a pair of compasses may be required.

**INSTRUCTIONS TO CANDIDATES**

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 in this booklet.

Take  $\pi$  as 3.14 or use the  $\pi$  button on your calculator.

**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.

| For Examiner's use only |              |              |
|-------------------------|--------------|--------------|
| Question                | Maximum Mark | Mark Awarded |
| 1.                      | 4            |              |
| 2.                      | 3            |              |
| 3.                      | 2            |              |
| 4.                      | 3            |              |
| 5.                      | 8            |              |
| 6.                      | 2            |              |
| 7.                      | 2            |              |
| 8.                      | 4            |              |
| 9.                      | 4            |              |
| 10.                     | 6            |              |
| 11.                     | 3            |              |
| 12.                     | 2            |              |
| 13.                     | 4            |              |
| 14.                     | 5            |              |
| 15.                     | 6            |              |
| 16.                     | 3            |              |
| 17.                     | 4            |              |
| <b>TOTAL</b>            | <b>65</b>    |              |

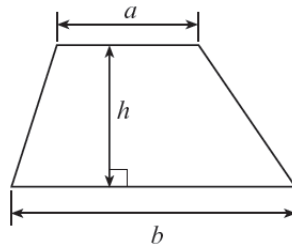
The number of marks is given in brackets at the end of each question or part-question.

The assessment will take into account the quality of your linguistic and mathematical organisation and communication in question **5(c)**.

The assessment will take into account the accuracy of your writing (linguistic and mathematical) in question **14**.

### Formula list

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



1. Aneurin and Branwen arranged a party after winning their event at the Urdd. Complete the four entries in the following table to show part of their bill for the food they bought.

| Amount        | Item                               | Cost  |
|---------------|------------------------------------|-------|
| 4 bags        | Nuts @ £1.35 a bag                 | £5.40 |
| 7             | Pizzas @ £1.75 per pizza           | ..... |
| 3             | Chocolate cakes @ £ ..... per cake | £7.47 |
| ..... cartons | Orange juice @ 99p per carton      | £8.91 |
| Total         |                                    | ..... |

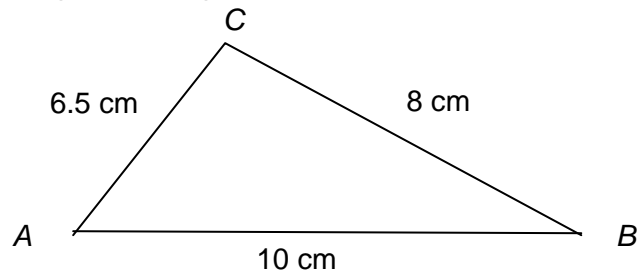
[4]

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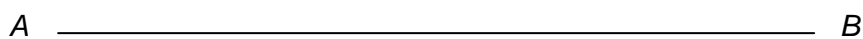
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2. Use a ruler and a pair of compasses to make an accurate drawing of this triangle.

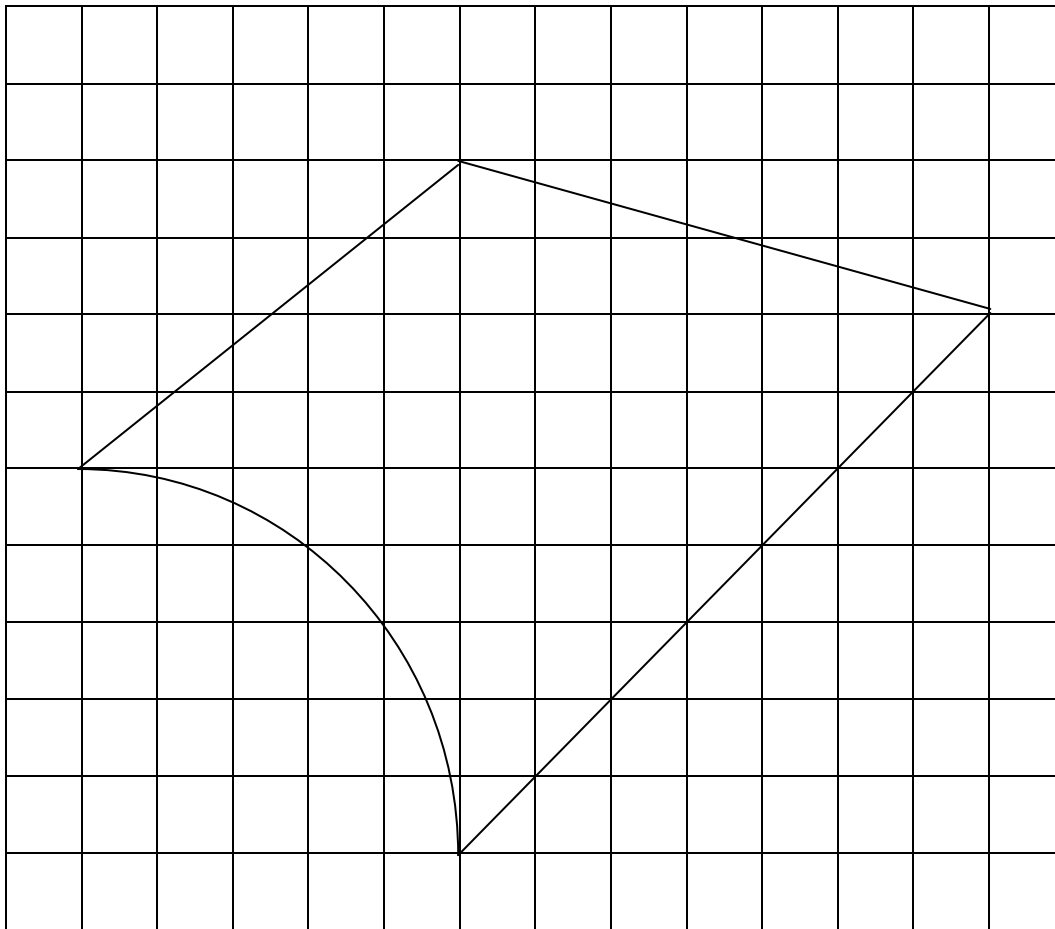


[3]

The line AB has been drawn for you.



3.



Estimate the area of the shape drawn above on a square grid if the area of each square is  $1 \text{ cm}^2$ .

[2]

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.....

Area of the shape = .....  $\text{cm}^2$

4. (a) Circle the correct word to describe the chance of each of the following events happening.

(i) Mai has a box containing 100 different cards.  
Each card has one number written on it from 1 to 100.  
Mai chooses a card at random from the box.  
The chance that the number on the chosen card is a 2-digit number is [1]

**impossible      unlikely      even chance      likely      certain**

(ii) Dafydd chooses a card at random from a box containing 50 cards.  
There are 16 yellow cards in the box.  
The chance that the chosen card is yellow is [1]

**impossible      unlikely      even chance      likely      certain**

(b) Write down the mode of these numbers.

4    5    4    7    8    4    5    9    3 [1]

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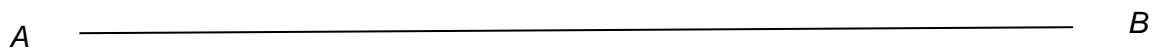




7. On the diagram, mark the point  $T$  with a cross so that

- $\hat{TAB} = 64^\circ$
- $AT = 7 \text{ cm}$ .

[2]





8. (a) Circle either TRUE or FALSE for each statement given below.

[2]

| STATEMENT  |      |       |
|--|------|-------|
| A cuboid has 6 vertices.                                 | TRUE | FALSE |
| A tetrahedron is a pyramid with 4 triangular faces only. | TRUE | FALSE |
| A cube has 12 equal edges.                               | TRUE | FALSE |
| A triangular prism has 3 rectangular faces.              | TRUE | FALSE |

(b) In the space below, draw **one** shape which has both

- rotational symmetry of order 3, **and**
- 3 lines of symmetry.

You must draw in the lines of symmetry.

[2]

9. Here are two sequences of numbers.  
Some of the numbers have been left out of each sequence.  
Fill in numbers to make correct sequences.  
After each sequence, write down the rule used to find the next term in your sequence.

(a) 5, ....., ....., 14, [2]

.....  
.....  
.....

Rule .....

.....

(b) 40, ....., ....., 5, [2]

.....  
.....  
.....

Rule .....

.....

10. (a) Simplify the expression  $9g - 5f - 2g + 3f$ .

[2]

.....  
.....

(b) Find the value of  $3x + 4y$  when  $x = -2$  and  $y = 4$ .

[2]

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.....

(c) Write down the next two numbers in the following sequence.

20   14   9   5   2   ..... .....

[2]

.....  
.....

11. (a) Circle the correct answer for each of the following statements.

(i) Helen has bought one of the eighty tickets sold in a raffle. The probability that Helen wins the top prize in the raffle is

$\frac{1}{79}$

1%

1:80

$\frac{1}{80}$

80%

[1]

(i) One ball is selected at random from a box containing 5 blue balls, 4 red balls and 1 yellow ball. The probability that the selected ball is blue is

$\frac{5}{5}$

$\frac{1}{2}$

$\frac{5}{41}$

$\frac{10}{5}$

5%

[1]

(b) A bag contains some red, green and black beads.

One bead is selected at random from the bag.

The probability of selecting a green bead from the bag is  $\frac{1}{3}$ .

Which of the following sets of beads could have been in the bag?

Circle the correct answer.

|                             |                             |                             |                             |                             |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| 2 red<br>1 green<br>1 black | 3 red<br>6 green<br>3 black | 3 red<br>3 green<br>4 black | 7 red<br>4 green<br>1 black | 5 red<br>3 green<br>4 black |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|

[1]

12. Calculate 38% of 15.6.

[2]

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15. The diagram shows 2 identical parallelograms and the coordinates of four vertices. Find the coordinates of the vertices marked A, B and C.

[6]

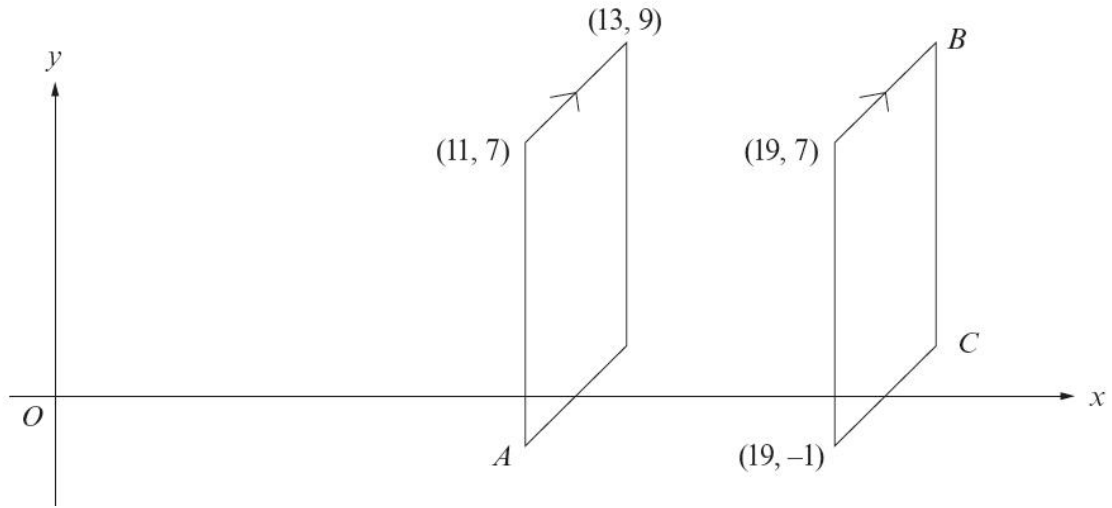


Diagram not drawn to scale

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A (..... , ..... )      B (..... , ..... )      C (..... , ..... )

16. Calculate the average speed of a car which travelled 80 miles in 2 hours and 30 minutes.

[3]

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