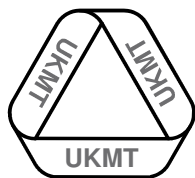


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# A1

From 80% of 70, Jocelyn correctly subtracts  $\frac{3}{4}$  of 60.

Pass on her answer.

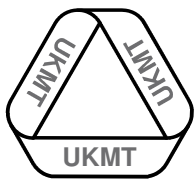
# A3

*T is the number you will receive.*

From a 2.74 m length of rope,  $(T - 1)$  pieces of mean length 22 cm are cut.

The remaining piece has length  $K$  cm.

Pass on the value of  $K$ .

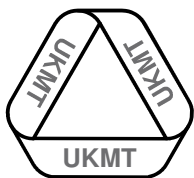


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$T$  is the number you will receive.

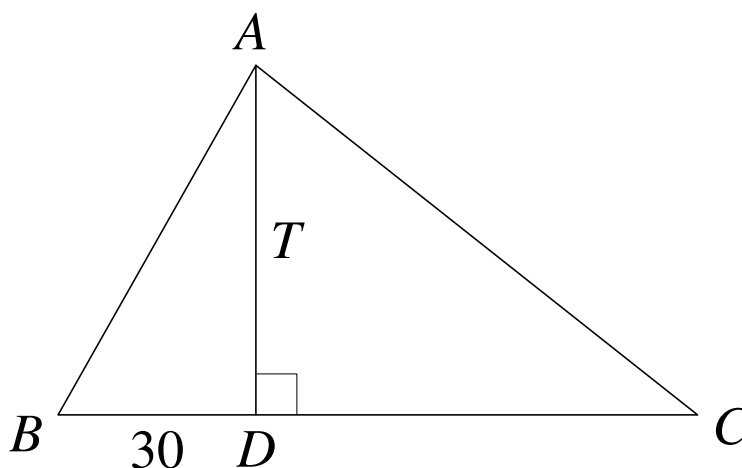
**A2**

A quadrilateral has interior angles  $7T^\circ$ ,  $8T^\circ$ ,  $9T^\circ$  and  $12K^\circ$ .

Pass on the value of  $K$ .

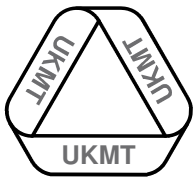
$T$  is the number you will receive.

**A4**



In the diagram, triangle  $ABC$  has area 6000. Length  $BD = 30$  and  $AD = T$ .

Write down the area of triangle  $ADC$ .

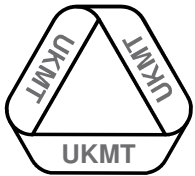


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**B1**

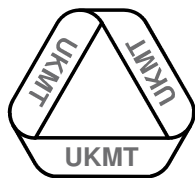
$$(201 + 7x) - (20 + 17x) = 1.$$

Pass on the value of  $\frac{x}{3}$ .

**B3**

*T is the number you will receive.*

Pass on the lowest common multiple of  $20T$  and  $32T$ .

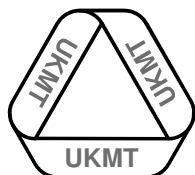


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# B2

*T* is the number you will receive.

In recurring decimal notation,  
 $2.\dot{3}4\dot{5}$  means  $2.345\ 345\ 345\dots$

The fraction  $\frac{20}{17}$  can be written as the recurring  
decimal  $1.\dot{1}76\ 470\ 588\ 235\ 294\ \dot{1}$ .

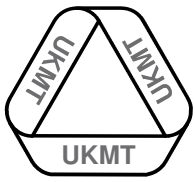
Pass on the value of the digit in the  $(2017 + T)$ th  
decimal place.

# B4

*T* is the number you will receive.

Tilly has drawn a rhombus. The long diagonal of  
her rhombus is four times the length of the shorter  
diagonal. The area of the rhombus is  $T$ .

Write down the length of the shorter diagonal.



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# C1

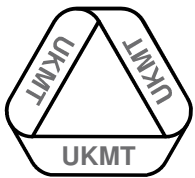
$$K = \frac{1}{1} \div \left( \frac{1}{2} \times \frac{1}{3} \times \frac{1}{4} \times \frac{1}{5} \right).$$

Pass on the value of  $K$ .

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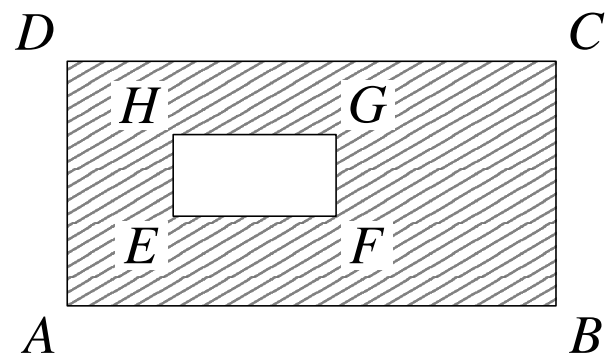


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# C3

$T$  is the number you will receive.

In the diagram, each of the rectangles  $ABCD$  and  $EFGH$  is twice as wide as it is long.



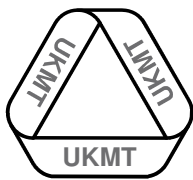
Rectangle  $ABCD$  is three times as wide as rectangle  $EFGH$ . The total perimeter of the shaded region is  $(T - 12)$  cm.

The area of the shaded region is  $K$  cm<sup>2</sup>. Pass on the value of  $K$ .

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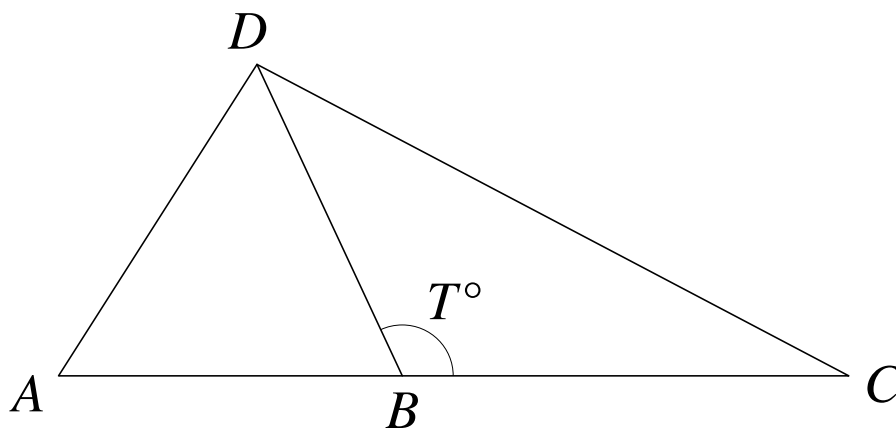
*T is the number you will receive.*

**C2**

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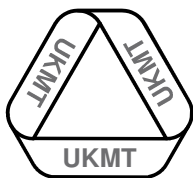


In the diagram,  $\angle DBC = T^\circ$ ,  $\angle CDB = 2 \times \angle BCD$   
and  $\angle BDA = 3 \times \angle BCD$ .

$\angle DAB$  is  $x^\circ$ .

Pass on the value of  $x$ .

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*T is the number you will receive.*

**C4**

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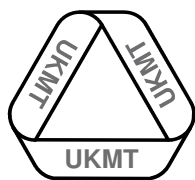
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$$\frac{1}{8} \left( x + \frac{T}{4} \right) - \frac{1}{2} \left( \frac{1}{16}x + \frac{T}{64} \right) = \frac{1}{4} \left( \frac{1}{2}x + \frac{T}{16} \right).$$

Write down the value of  $x$ .

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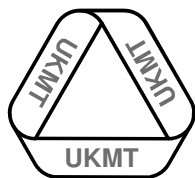


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# D1

$$A = 123 \div (-4 - 5 + 6) - 7 \times (-8 - 9 + 10).$$

Pass on the value of  $A$ .

# D3

*T* is the number you will receive.

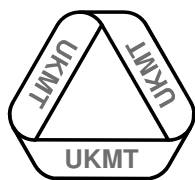
The Grand Old Duke of Walk, he had  $T$  thousand men. He marched them 2 km to the top of a hill and he marched them 2 km down again.

However, 20% of his men stopped after 1 km.

Of those who carried on, 20% stopped after 2 km.

Of those who carried on further, another 20% stopped after 3 km.

Pass on the number of men still walking after 3 km.

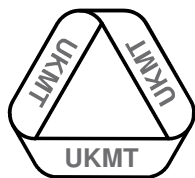


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**D2**

*T* is the number you will receive.

A hexagon has interior angles of  $17T^\circ$ ,  $20T^\circ$ ,  $17T^\circ$ ,  $18T^\circ$ ,  $16T^\circ$  and  $kT^\circ$ .

Pass on the value of  $k$ .

**D4**

*T* is the number you will receive.

The mean of five positive integers is  $\frac{T}{2}$ , the mode is  $\frac{3T}{4}$  and the range is  $\frac{T}{2}$ .

Write down the largest possible value of the median of the set of integers.



TEAM NUMBER

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<p><b>A1</b></p> <p style="text-align: right;">0 1 3</p>	<p><b>B1</b></p> <p style="text-align: right;">0 1 3</p>	<p><b>C1</b></p> <p style="text-align: right;">0 1 3</p>	<p><b>D1</b></p> <p style="text-align: right;">0 1 3</p>
<p><b>A2</b></p> <p style="text-align: right;">0 1 3</p>	<p><b>B2</b></p> <p style="text-align: right;">0 1 3</p>	<p><b>C2</b></p> <p style="text-align: right;">0 1 3</p>	<p><b>D2</b></p> <p style="text-align: right;">0 1 3</p>
<p><b>A3</b></p> <p style="text-align: right;">0 1 3</p>	<p><b>B3</b></p> <p style="text-align: right;">0 1 3</p>	<p><b>C3</b></p> <p style="text-align: right;">0 1 3</p>	<p><b>D3</b></p> <p style="text-align: right;">0 1 3</p>
<p><b>A4</b></p> <p style="text-align: right;">0 1 3</p>	<p><b>B4</b></p> <p style="text-align: right;">0 1 3</p>	<p><b>C4</b></p> <p style="text-align: right;">0 1 3</p>	<p><b>D4</b></p> <p style="text-align: right;">0 1 3</p>

BONUS 3

BONUS 3

BONUS 3

BONUS 3

A TOTAL /15

B TOTAL /15

C TOTAL /15

D TOTAL /15

Circle the mark awarded for each question and cross out the others.  
At the end of the round, either circle the bonus mark or cross it out.

FINAL SCORE /60