

A1 Write down 10% of 20% of 30% of 40%
of 50% of 10000.



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A3 *T is the number that you will receive.*

Write down the lowest common multiple of $\sqrt{64}$, $\sqrt{100}$ and \sqrt{T} .



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A2 *T is the number that you will receive.*

The number $1000T$, when expressed as a product of prime factors, can be written in the form $2^a \times 3^b \times 5^c$, where a , b and c are integers.

Write down the value of $a + b + c$.



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A4 *T is the number that you will receive.*

A cuboid with length 10 cm and width 2 cm is made up from T centimetre cubes.

Write down the total surface area, in cm^2 , of the cuboid.



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B1 Write down the value of

$$\frac{2010}{2+0+1+0} + \frac{201+0}{2+0+1+0} + \frac{20+10}{2+0+1+0}.$$



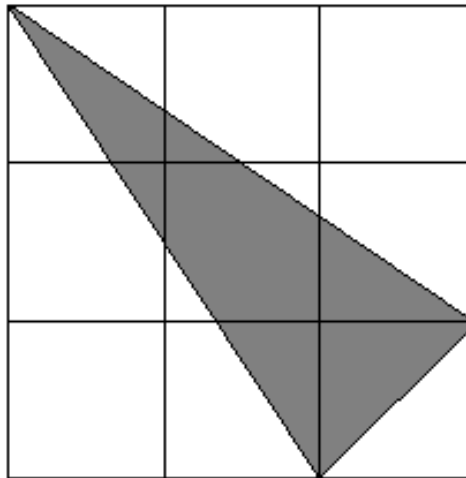
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B3 *T is the number that you will receive.*

The diagram shows a triangle drawn on a square grid made up of nine smaller squares. The area of the shaded triangle is $T \text{ cm}^2$.

Write down the area, in cm^2 , of one of the smaller squares.



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B2 *T* is the number that you will receive.

The number *T* is an example of a palindromic number – one which is unchanged if the order of its digits is reversed.

Write down the number of palindromes between 300 and *T* inclusive.



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B4 *T is the number that you will receive.*

Write the number T as a word in the gap shown in the following sentence and then write down the answer to the question:

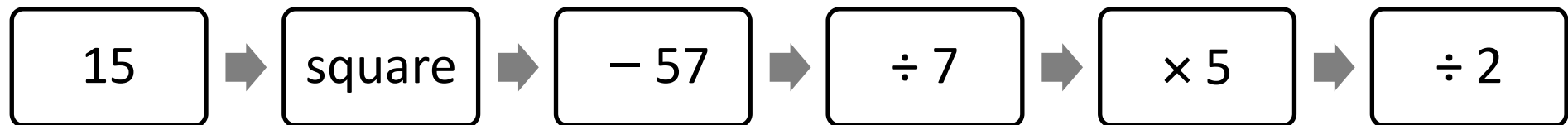
Out of the first _____ letters in this sentence, what fraction are vowels?



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C1 Starting in the box in the left, apply the operations in the order given and write down your final answer.



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C3 *T is the number that you will receive.*

The diagram shows a magic square in which the numbers in each column, row and two main diagonals add up to the same number. Write down the value of the number that should be written in the shaded square.

	T	
$T + 2$	$T + 4$	
$T + 3$		$T + 1$



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C2 *T is the number that you will receive.*

I had budgeted for T items at £1.98 each, but in the sale they were only £1.80.

How many was I able to buy?



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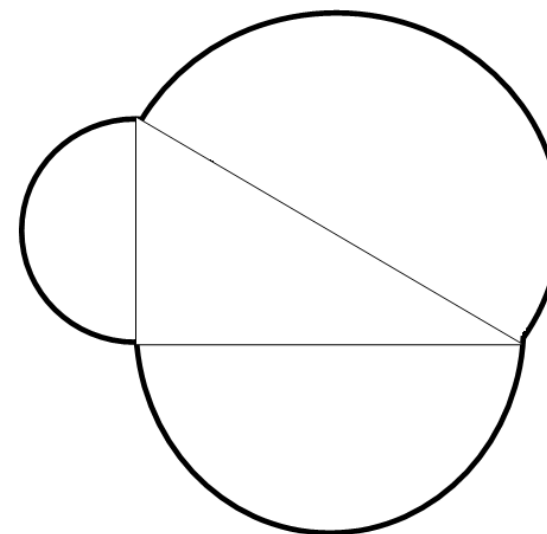


C4 *T* is the number that you will receive.

A right-angled triangle with sides in the ratio 3 : 4 : 5 has perimeter equal to T cm.

Semicircles are drawn on each of the three sides.

Write down the total perimeter, in cm, of the resulting shape, giving your answer as a multiple of π .



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D1 John runs to the park at a constant speed, and back at twice that speed, taking a total of 18 minutes.

How many minutes would it have taken him if he had not speeded up?



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D3 *T is the number that you will receive.*

Marina notices that there are four times as many plain biscuits as chocolate biscuits in the tin. In fact, if she were to eat T plain biscuits, there would be an equal number of each type left.

How many chocolate biscuits are there?



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D2 *T is the number that you will receive.*

A clock has a minute hand which is T cm long. In one hour the area swept out by the minute hand is 48 times the area swept out by the hour hand.

What is the length, in cm, of the hour hand?

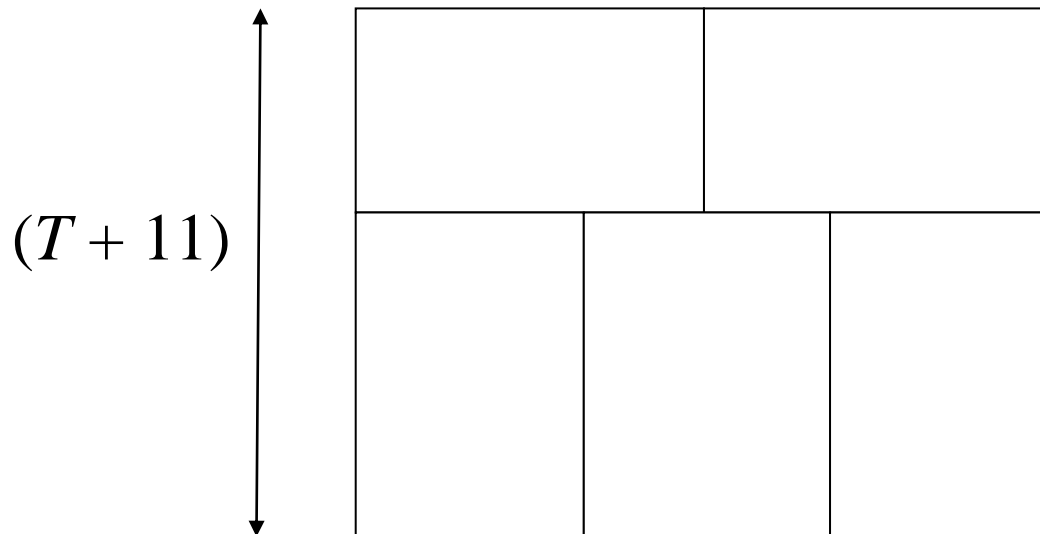


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D4 *T is the number that you will receive.*

The diagram shows five identical rectangles arranged to form a larger rectangle. If the width of the larger rectangle is $(T + 11)$ cm, as shown, write down the total area, in cm^2 , of the larger rectangle.



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