



ALGEBRA and UNKNOWNNS

Help Code : 028

23

Here is a pattern of number pairs.



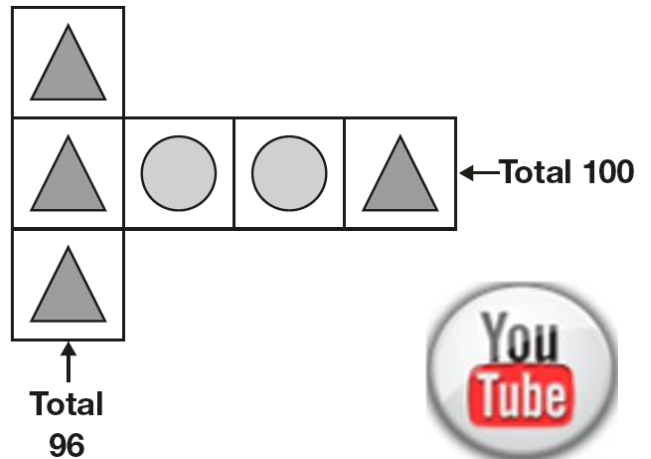
<i>a</i>	<i>b</i>
1	9
2	19
3	29
4	39

Complete the **rule** for the number pattern.

$$b = \boxed{} \times a - \boxed{}$$

4

Each shape stands for a number.



Work out the **value** of each shape.

$$\triangle = \underline{\hspace{2cm}}$$

$$\circ = \underline{\hspace{2cm}}$$



13

Lara chooses a number less than 20

She divides it by 2 and then adds 6

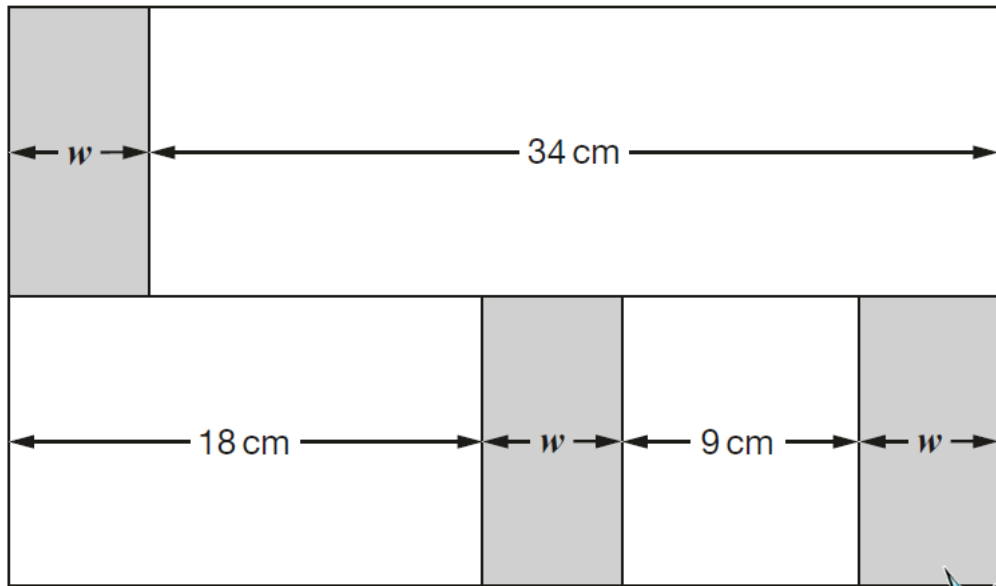
She then divides this result by 3

Her answer is 4.5

Show
your
method

What was the number she started with?

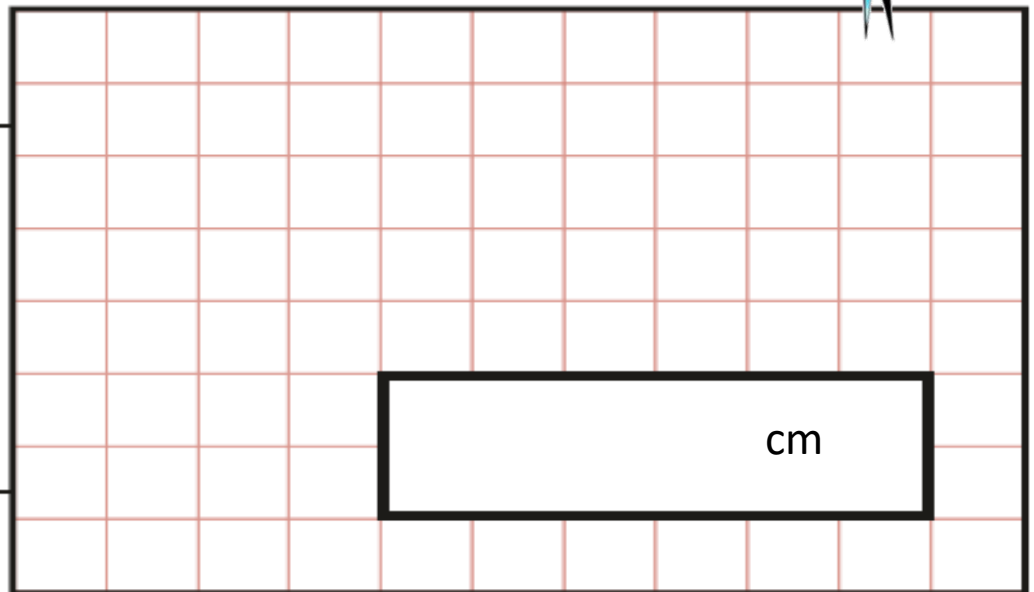
In this diagram, the shaded rectangles are all of equal width (w).



Calculate the width (w) of one shaded rectangle.



Show your method



8

Maria bakes cakes and sells them in bags.

She uses this formula to work out how much to charge for one bag of cakes.



Cost = number of cakes × 20p + 15p for the bag

How much will a bag of 12 cakes cost?

£

Olivia buys a bag of cakes for £5.15

Use the formula to calculate how many cakes are in the bag.



Show your method

Grid area for showing the method. A box labeled "cakes" is present in the lower right quadrant of the grid.

16

Lara chooses a number less than 100
She divides it by 3 and then subtracts 11
She then divides this result by 2
Her answer is 10.5

Show your method

Grid area for showing the method. A YouTube logo icon is in the top right corner, and an empty box is in the bottom right corner.

What was the number she started with?

Y6 SATs

Algebra & Unknowns

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BOOSTER

2013A KS2 Q15



Four children are in a race.

Chen is 2 metres ahead of Alfie.

Nina is 5 metres behind Megan.

Alfie is 3 metres behind Megan.

Write the names of the runners in order, starting with the child who is furthest ahead.

furthest ahead

2012A KS2 Q21



Mina has **5 more** marbles than Kirsty.

Kirsty has **2 more** marbles than Seb.

Altogether they have **30** marbles.

How many marbles does each child have?

Show your working

Mina

Kirsty

Seb

2013A KS2 Q24



A cake costs 15p more than a biscuit.

Megan bought a cake and two biscuits for 90p.

How much do a cake and a biscuit each cost?

Show your working

Cost of a cake

 p

Cost of a biscuit

 p

2010A KS2 Q15



An iced cake costs 10p more than a plain cake.

Sarah bought two of each cake.

They cost £1 altogether.



What is the cost of an **iced** cake?

Show your working.
You may get a mark.

p

2006A KS2 Q23

k stands for a whole number.

$k + 7$ is greater than 100

$k - 7$ is less than 90

Find **all** the numbers that k could be.



2004A KS2 Q22

Liam thinks of a number.

He **multiplies the number by 5** and then **subtracts 60** from the result.



His answer equals the number he started with

What was the number Liam started with?



Show your **working**. You may get a mark.



2000A KS2 Q12

Leon and Sara each started with **different** numbers.

I added 5 to my number.

I subtracted 8 from my number.



Leon



Sara

Leon and Sara both get the **same** answer.

What numbers could they have started with?



Leon

Sara



12

$n = 22$

What is $2n + 9$?



$2q + 4 = 100$

Work out the value of q .

$q =$