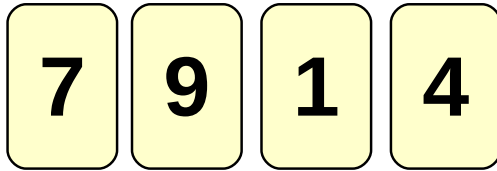


What fraction of this shape is shaded?  
Give your answer in its simplest form.

1

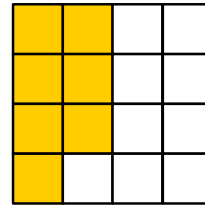
ANS \_\_\_\_\_



What is the smallest number you can make from the digits on the cards?

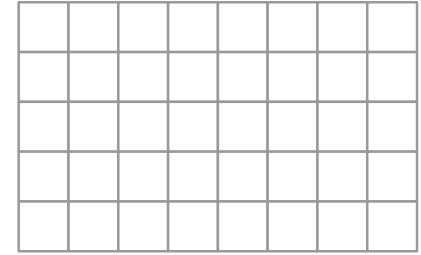
2

ANS \_\_\_\_\_



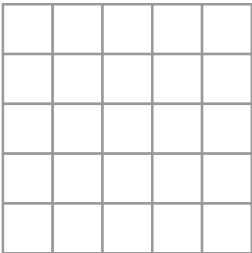
How many more squares do you have to shade so three-quarters of the square is shaded?

3



Draw a rectangle on the grid that has a perimeter of 14 cm and an area of 12 cm<sup>2</sup>

4



Shade in 60% of this grid

5

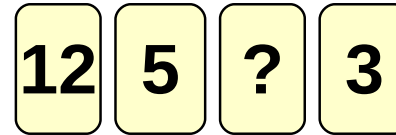
Solve these equations

$$3x - 7 = 17$$

$$\frac{x}{20} = 5$$

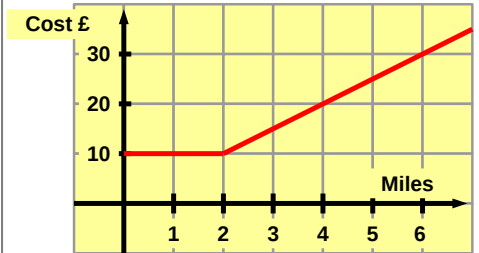
$$2x + 10 = 2$$

6



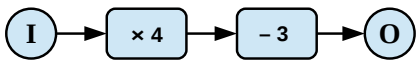
The mean of these four numbers is 7  
Find the missing value

7



How far can you get for £25?

8



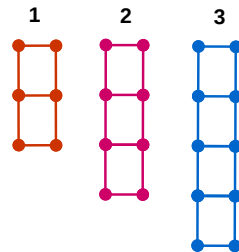
a) Input is 5, what is the output?

b) Output is 41, what is input?

\*c) The output was twice the input.  
What was the input?

9

How many sticks do you need for pattern 12?



Algeron has 66 sticks. Can he use them all to make a pattern?  
You must give a reason/calculation

10

Beth is  $x$  years old \_\_\_\_\_

11

Algeron is four years older than Beth \_\_\_\_\_

Hannah is double the age of Beth. \_\_\_\_\_

The total age of the three people is 68 \_\_\_\_\_

How old is Beth?

Simplify these expressions

$$f + f + f + f - f$$

$$p \times p \times p \times p$$

$$5(2x - 5) - 2(2x - 1)$$

12

Algeron says that...

Half way between  $\frac{2}{3}$  and  $\frac{4}{5}$  is  $\frac{3}{4}$

Is he right?  
Give a calculation

13

Here is a number sequence...

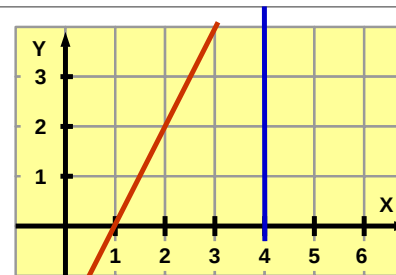


a) Write down the next two terms...

b) What is the  $n^{\text{th}}$  term of the sequence?

c) Explain why 207 can't be in the sequence

14



What is the gradient of the red line?  
What is the equation of the blue line?

15

Factorise...

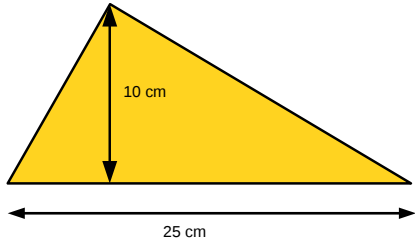
$$12x - 9$$

Factorise fully...

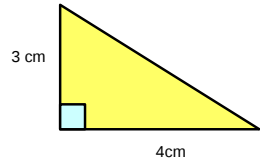
$$4x^2 + 10x$$

16

Work out the area of this triangle...



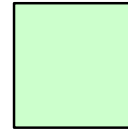
1



Work out the length of the long side of this triangle.

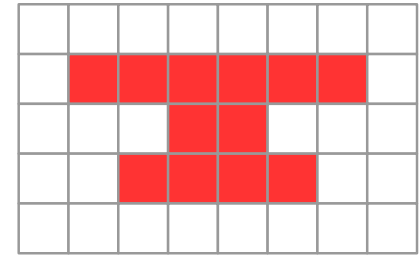
2

ANS \_\_\_\_\_



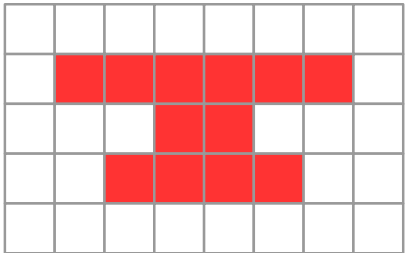
This square has an area of  $49 \text{ cm}^2$   
Work out the perimeter of the square

3



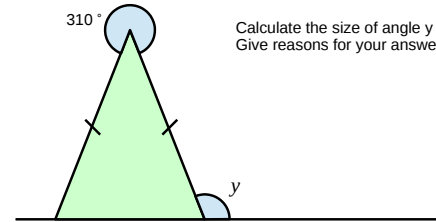
Find the perimeter of the red shape.  
Assume it is on a 1 cm grid.

4



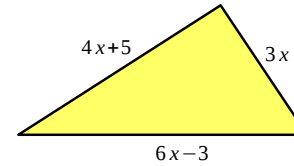
5

Shade two more squares so that the shape has order of rotational symmetry 2 and two axes of symmetry



Calculate the size of angle  $y$   
Give reasons for your answer

6

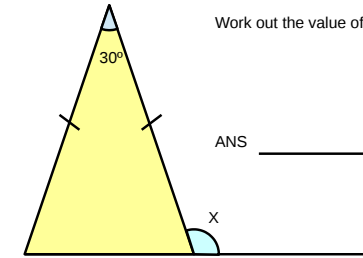


a) Write an expression for the perimeter of this triangle

The perimeter of the triangle is  $67 \text{ cm}$ .

b) Work out the value of  $x$

7

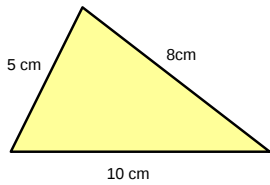


Work out the value of angle  $X$

ANS \_\_\_\_\_

8

Can you list the 3 angle facts you used to work out the answer?



Drawing  
not to  
scale

Algernon claims that this triangle has a right angle  
Is he right?  
How do you know?

9

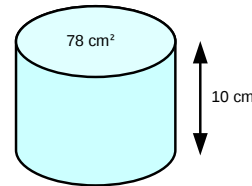


The shape above is made from a rectangle and a square  
The area of the square is  $36 \text{ cm}^2$   
The perimeter of the shape is  $44 \text{ cm}$   
Work out the area of the shape

10

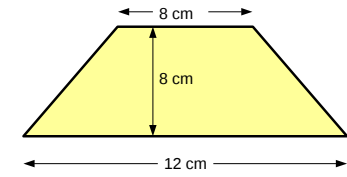
ANS \_\_\_\_\_

Calculate the volume of the sweetcorn tin



11

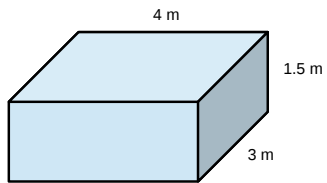
ANS \_\_\_\_\_



Use the formula on a Foundation past exam paper to  
calculate the area of this trapezium

12

ANS \_\_\_\_\_

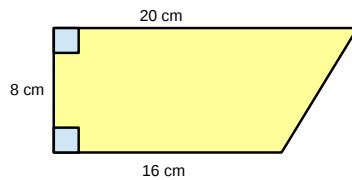


Calculate the volume of this cuboid  
Give a unit for your answer

13

ANS \_\_\_\_\_

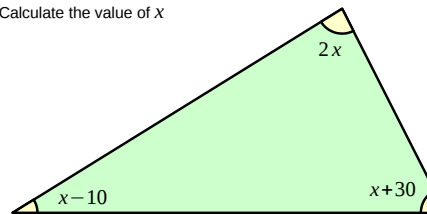
Calculate the area of the trapezium shown below...



14

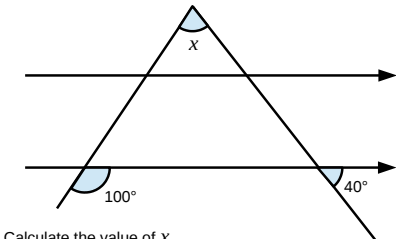
ANS \_\_\_\_\_

Calculate the value of  $x$



15

ANS \_\_\_\_\_



Calculate the value of  $x$   
Can you give reasons for your answer?

16

ANS \_\_\_\_\_