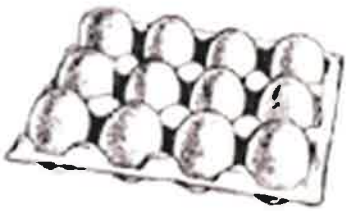
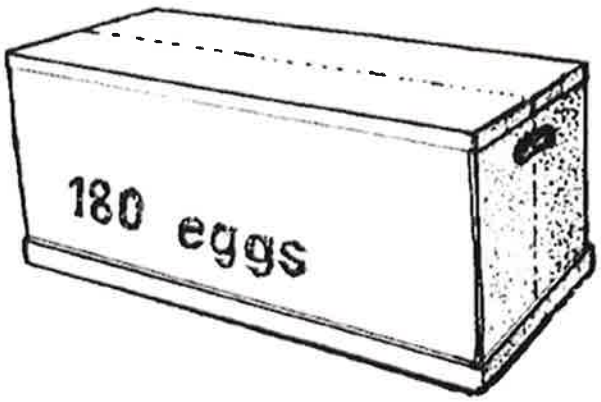
Day 1 - Reasoning

1 Circle **one number** on the grid which can be **divided by 9** with a **remainder of 1**

97	98	99
107	108	109
117	118	119

2 Eggs are put in **trays of 12**





The trays are packed in boxes.

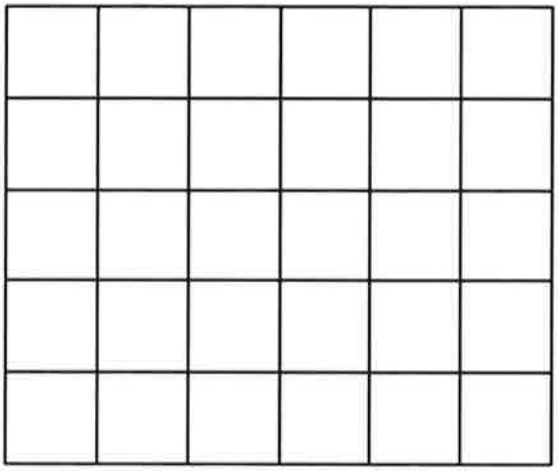
Each **box** contains **180 eggs**.

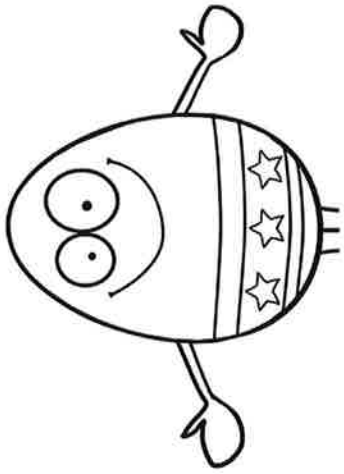
How many **trays** are in each **box**?

Show your method

3 Here is a grid made of squares.

Shade **10%** of this grid.

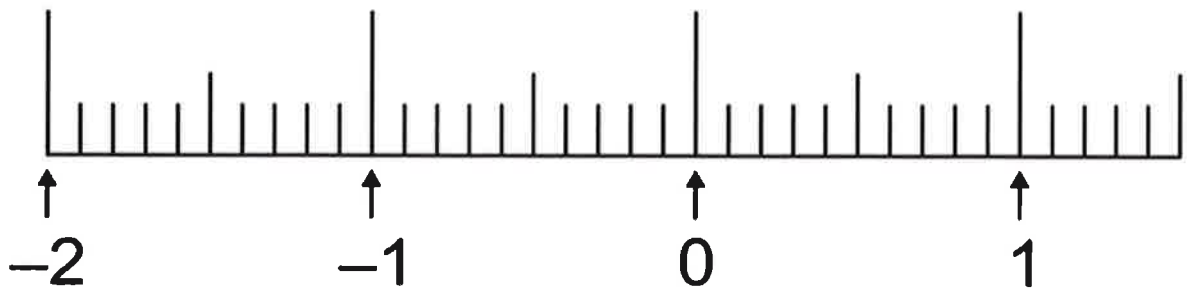




4 Tick (✓) **two** cards that give a **total of 5**

$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$
$3\frac{1}{2}$	$3\frac{3}{4}$	$4\frac{1}{4}$

5 Mark with arrows the points **–1.5** and **0.45** on the number line.

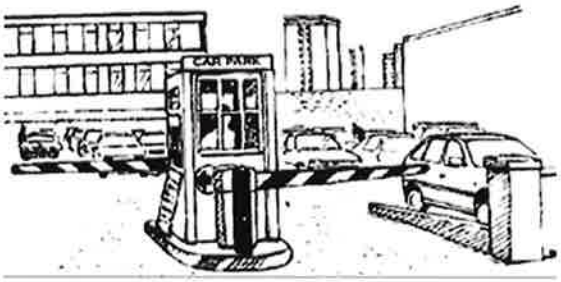


Day 2 - Reasoning

1 Write the correct sign **>**, **<** or **=** in each of the following.

$(10 + 5) - 9$	☐	$(10 + 9) - 5$
$3 \times (4 + 5)$	☐	$(3 \times 4) + 5$
$(10 \times 4) \div 2$	☐	$10 \times (4 \div 2)$

2



Car Park charges	
Time	**Charge**
up to 1 hour	20p
1 to 2 hours	50p
2 to 3 hours	£1.00
3 to 4 hours	£1.70
over 4 hours	£5.00

Emma parks her car at **9.30 am**.

She collects the car at **1.20 pm**.

How much does she pay?

☐

Dan and Mark both use the car park.

Dan says,

'I paid exactly twice as much as Mark but I only stayed 10 minutes longer'.

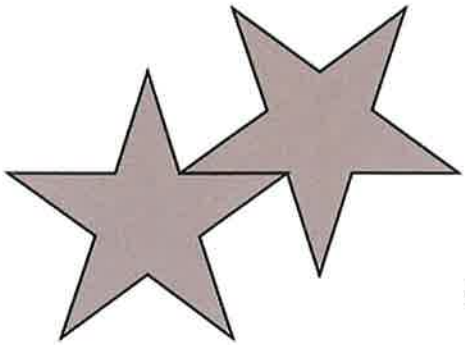
Explain how Dan could be correct.

3 Millie has some star-shaped tiles.

Each edge of a tile is 5 centimetres long.

Not actual size

She puts two tiles together to make this shape.



Work out the perimeter of Millie's shape.

cm

4 Write these numbers in order, starting with the **smallest**.

0.78 0.607 5.6 0.098 4.003

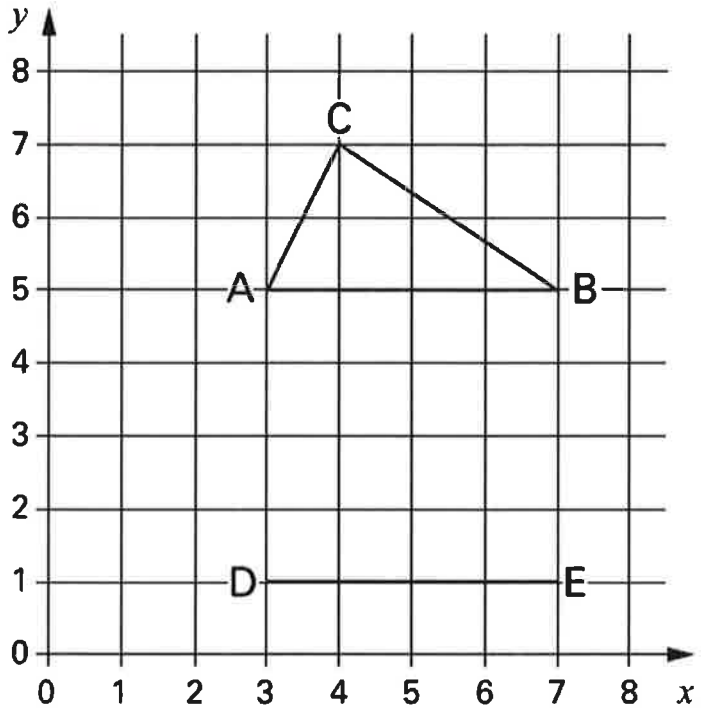
smallest

5 Complete this table by rounding the numbers to the **nearest hundred**.

	Rounded to the **nearest hundred**
20,906	
2,090.6	
209.06	

Day 3 - Reasoning

1 Kyle has drawn triangle **ABC** on this grid.

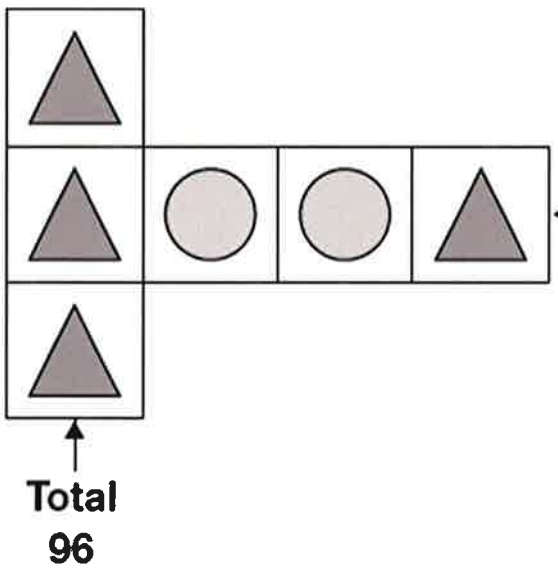


Holly has started to draw an **identical** triangle **DEF**.

What will be the coordintes of point F ?

(,)

2 Each shape stands for a number.

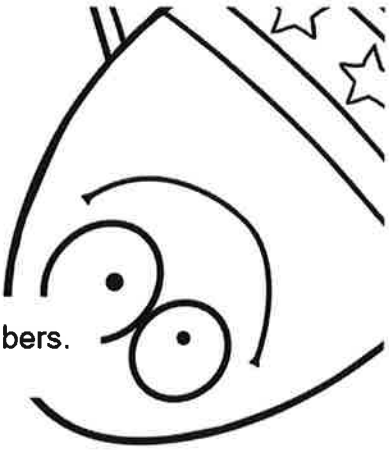


Work out the **value** of each shape.

 = _____

 = _____

3 Here are four digit cards.



7	5	2	1

Choose two cards each time to make the following two-digit numbers.

The first one is done for you.

an even number	5 2
a multiple of 9	
a square number	
a factor of 96	

4 The first two numbers in this sequence are 2.1 and 2.2

The sequence then follows the rule

'to get the next number, add the two previous numbers'

Write in the next two numbers in the sequence.

2.1 2.2 4.3 6.5 ☐ ☐

Day 4 - Reasoning

1 Complete each sentence using a number **from the list below**.

120 240 600 1,440 3,600 6,000

There are ☐ seconds in an hour.

There are ☐ minutes in a day.

2 Lara chooses a number less than 20

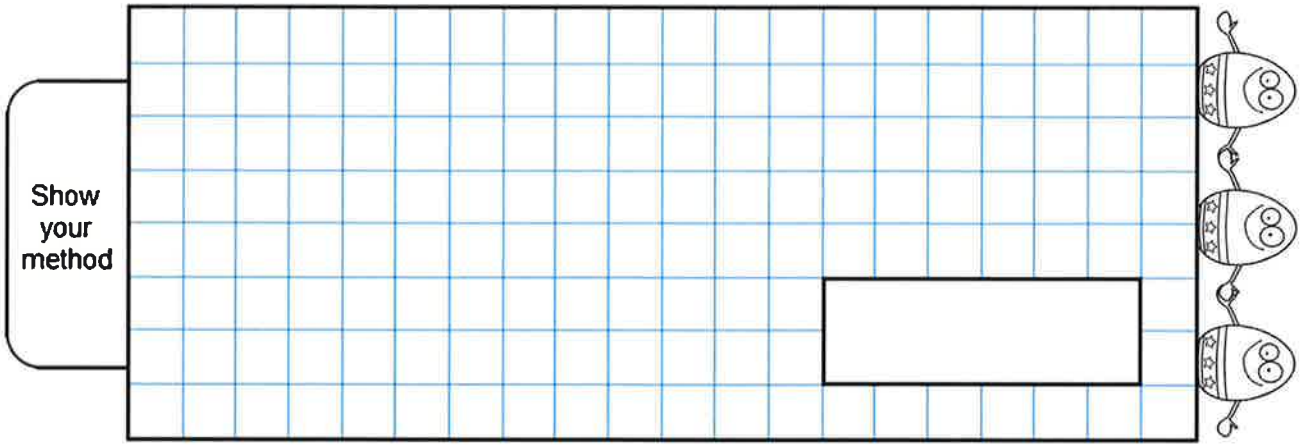
She divides it by 2 and then adds 6

She then divides this result by 3

Her answer is 4.5

What was the number she started with?

Show your method



3 Write **all** the common multiples of 3 and 8 that are **less than 50**

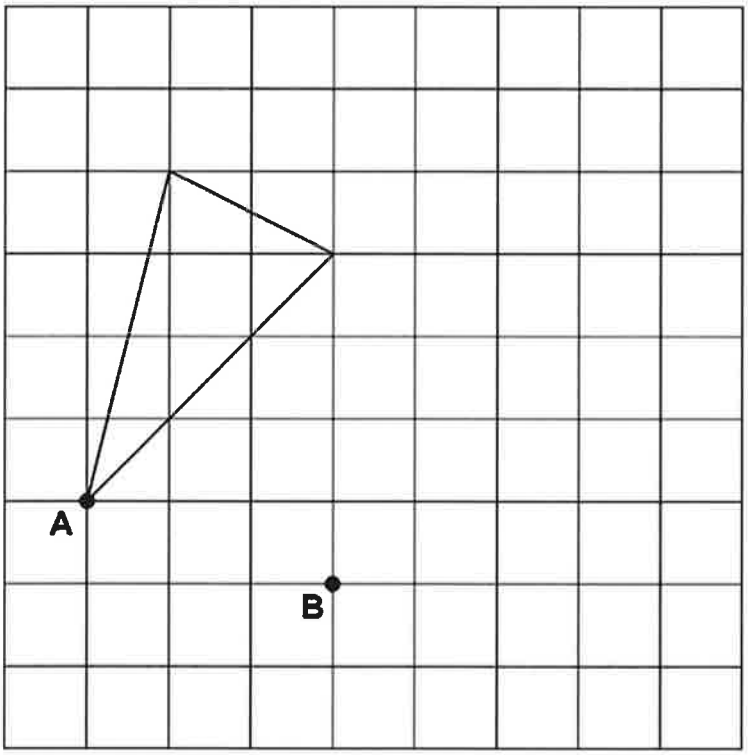
_____

4 Here is a triangle on a square grid.

The triangle is translated so that point **A** moves to point **B**.

Draw the triangle in its new position.

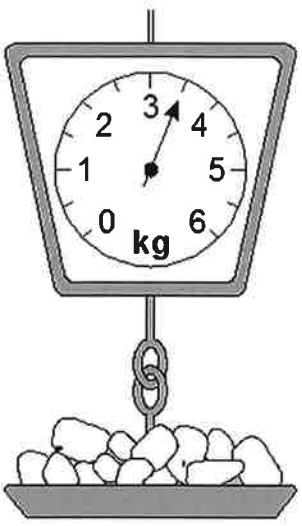
Use a ruler.



5 This table shows the weight of some fruits and vegetables.

Complete the table.

	grams	kilograms
potatoes	3500	3.5
apples		1.2
grapes	250	
ginger		0.03



Day 5 - Reasoning

1 Write the missing number.

$70 \div \square = 3.5$

2 Write in the missing digits to make this correct.

$$\begin{array}{r} \square\ 4\ \square \\ \times\qquad 6 \\ \hline 2\ 0\ 5\ 2 \end{array}$$

3 Here is part of the bus timetable from Riverdale to Mott Haven.

Riverdale	10:02	10:12	10:31	10:48
Kingsbridge	10:11	10:21	10:38	10:55
Fordham	10:28	10:38	10:54	11:11
Tremont	10:36	10:44	11:00	11:17
Mott Haven	10:53	11:01	11:17	11:34

How many minutes does it take the 10:31 bus from Riverdale to reach Mott Haven?

minutes

Mr Evans is at Fordham at 10:30

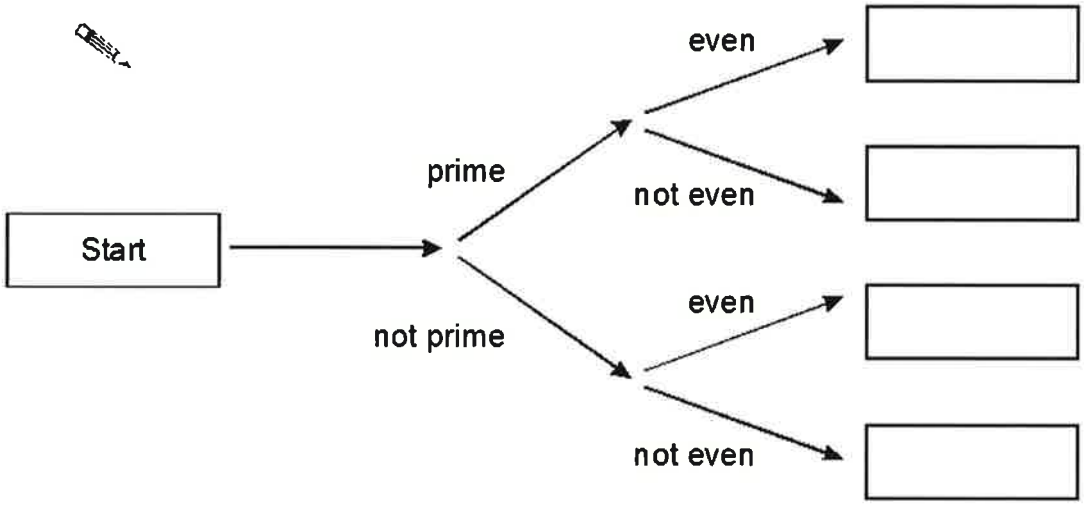
What is the **earliest** time he can reach Tremont on the bus?

4 Here is a diagram for sorting numbers.

Write these three numbers in the correct boxes.

You may not need to use all of the boxes.

9 **17** **20**



5 Parveen buys 3 small bags of peanuts.

She gives the shopkeeper £2 and gets 80p change.

What is the cost in pence of one bag of peanuts?

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

p

Day 6 - Reasoning

1 This table shows the temperature at 9 am on three days in January.

1st January	8th January	15th January
+5°C	–4°C	+1°C

What is the difference between the temperature on 1st January and the temperature on 8th January?

°C

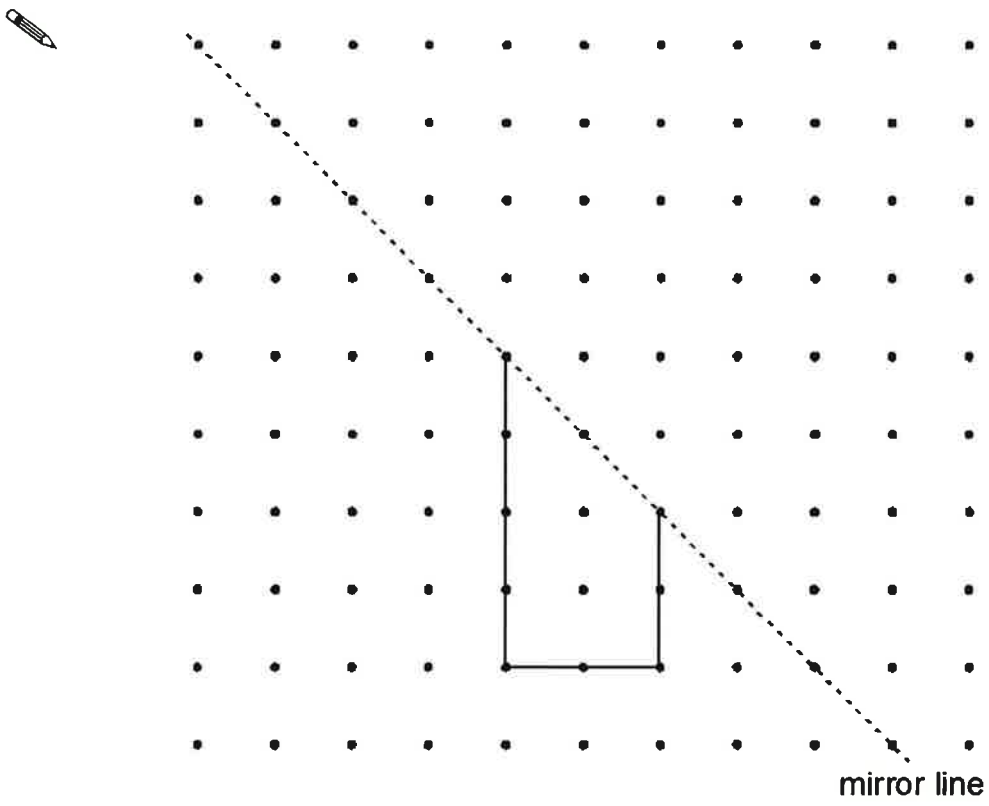
On 22nd January the temperature was 7 degrees lower than on 15th January.

What was the temperature on 22nd January?

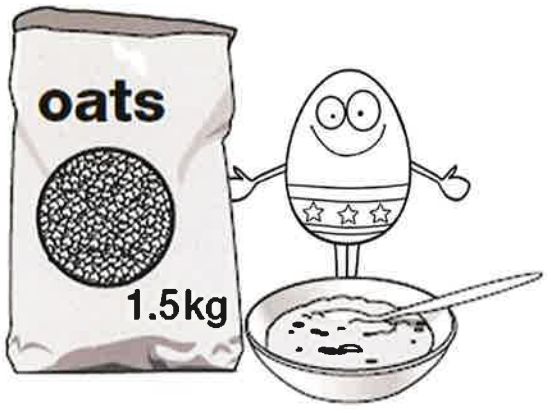
°C

2 Use a ruler to draw the **reflection** of this shape in the mirror line.

You may use a mirror or tracing paper.



3 A packet contains 1.5 kg of oats.



Every day Maria uses 50 g of oats to make porridge.

How many days does the packet of oats last?

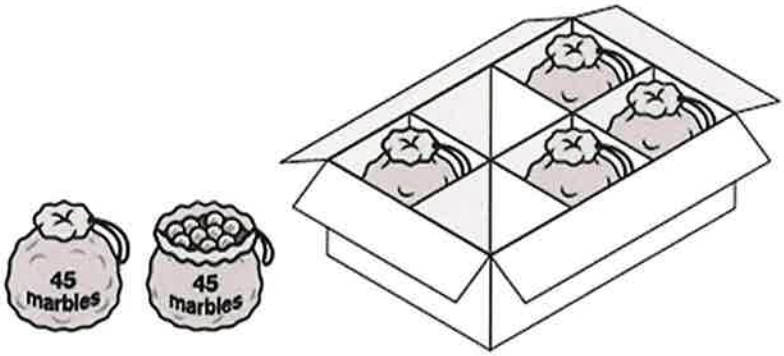
Show your method

days

4 A toy shop orders 11 boxes of marbles.

Each box contains 6 bags of marbles.

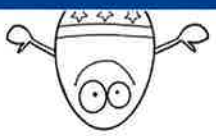
Each bag contains 45 marbles.



How many **marbles** does the shop order in total?

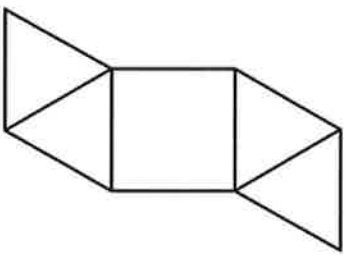
Day 7 - Reasoning

1 Look at each of these diagrams.



Put a tick (✓) if it is the **net of a square based pyramid.**

Put a cross (✗) if it is **not.**



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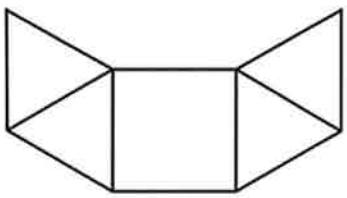

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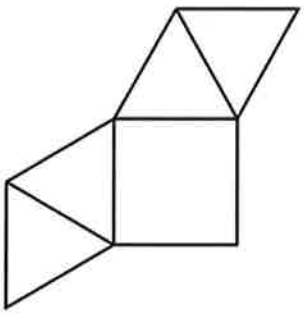

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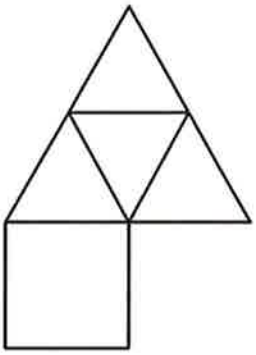


_____

2 Julie says,

'I added three odd numbers and my answer was 50'

Explain why Julie cannot be correct.

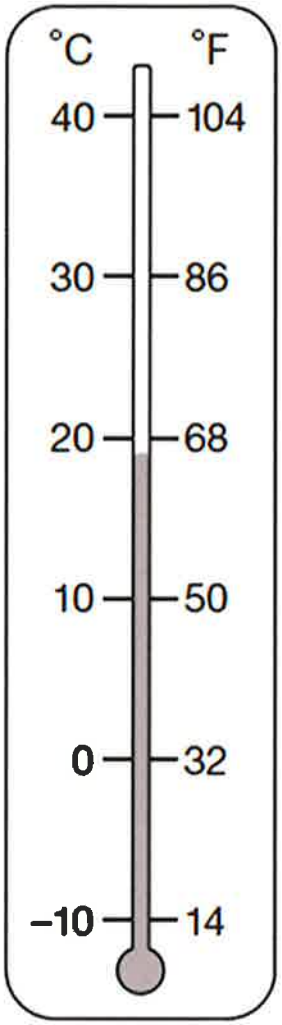
.....

.....

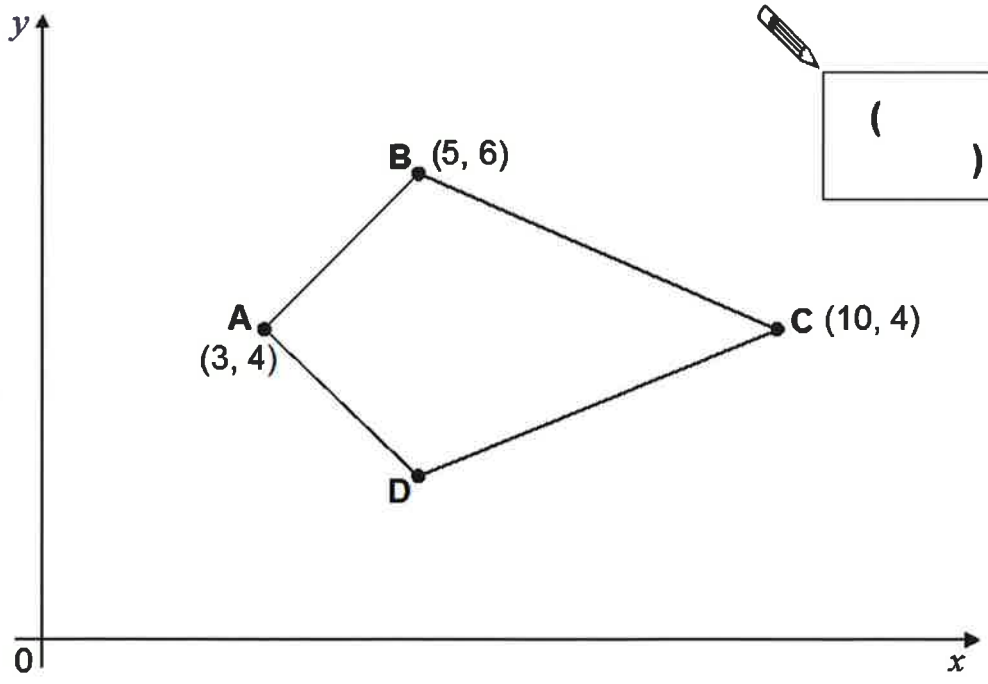
.....

3 This thermometer shows temperatures in both °C and °F.

Work out what **25°C** is in °F.



4 Here is a kite.



(,)

Write the coordinates of point **D**.

Day 8 - Reasoning

1 Write the number 53,148 in **words.**

_____

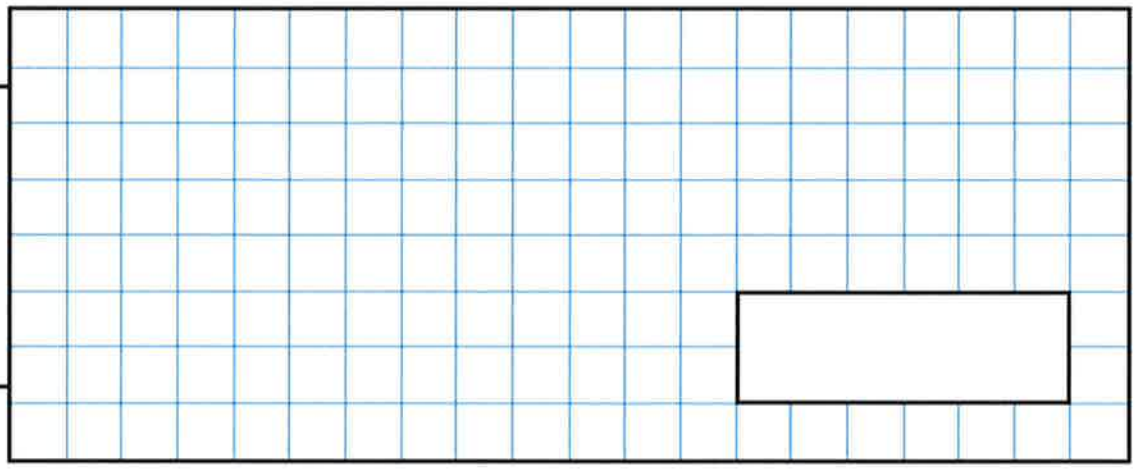
2 The numbers in this sequence increase by 30 each time.

20 50 80 110 ...

The sequence continues in the same way.

Which number in the sequence will be **closest to 300**?

Show your method



3 Here is a number written in Roman numerals.

CXV

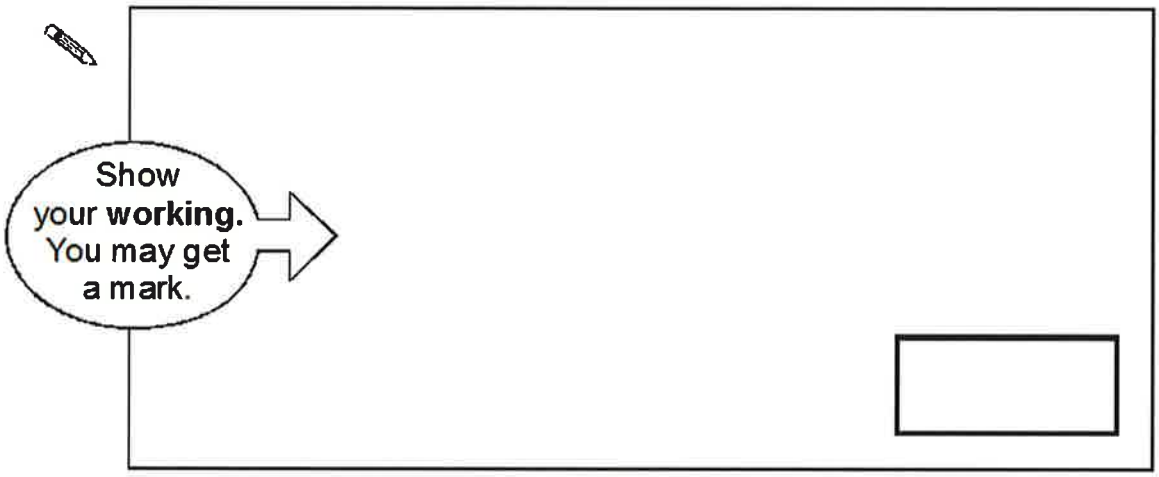
Write the number in figures.

4 Liam thinks of a number.

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

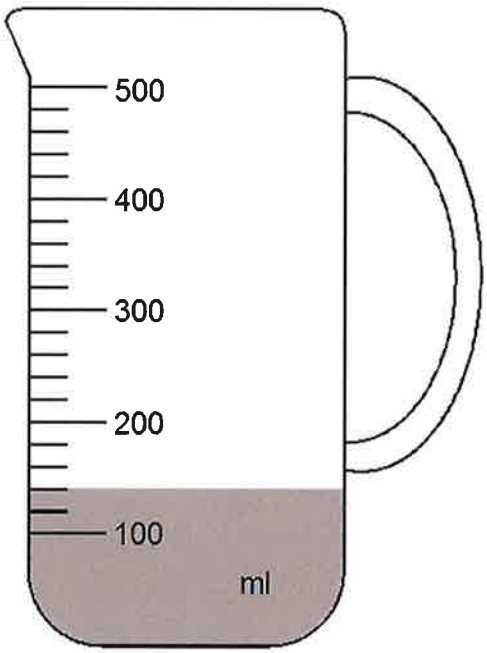
His answer equals the number he started with.

What was the number Liam started with?

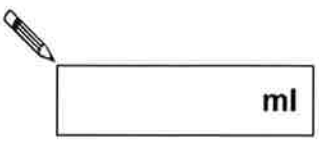


5 Mr Khan makes a blackcurrant drink for a party.

He pours blackcurrant squash into a jug.

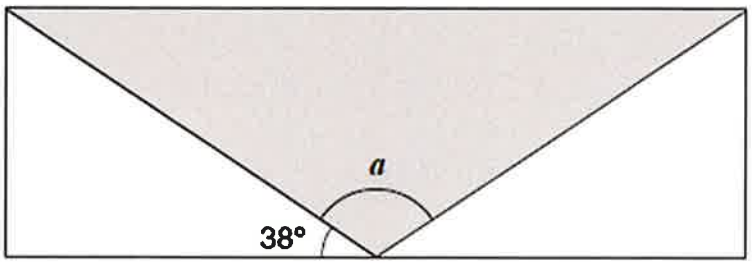


How much water must he add to make **500 millilitres** of drink?

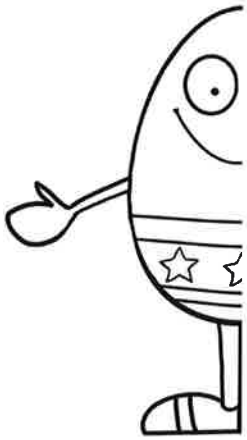


Day 9 - Reasoning

1 A shaded **isosceles** triangle is drawn inside a rectangle.



Not to scale



Calculate the size of angle a.

Show your method

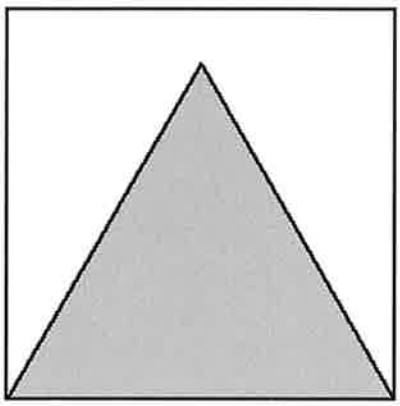
°

2 Here is a sorting diagram for numbers.

Write a number **less than 100** in each space.

	even	**not** even
a square number		
not a square number		

3 Here is an equilateral triangle inside a square.



Not actual size

The perimeter of the triangle is 48 centimetres.

What is the perimeter of the **square**?

4 This table shows the number of people living in various towns in England.

Town	Population
Bedford	82,448
Carlton	48,493
Dover	34,087
Formby	24,478
Telford	166,640

What is the **total** of the numbers of people living in Formby and in Telford?

What is the **difference** between the numbers of people living in Bedford and in Dover?

Day 10 - Reasoning

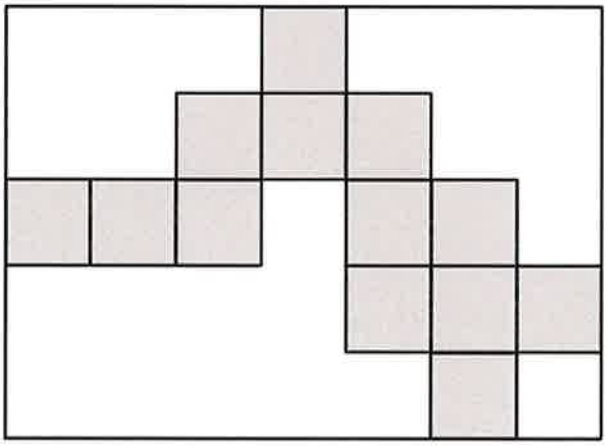
1 A film starts at 6:45pm.

It lasts 2 hours and 35 minutes.

What time will the film finish?

pm

2 Here is a rectangle with 13 identical shaded squares inside it.



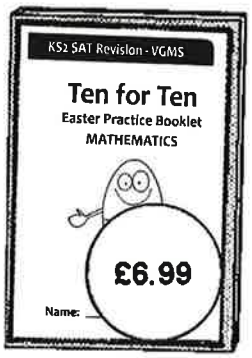
What fraction of the rectangle is shaded?

3 Write in the missing number.

50 ÷ ☐ = 2.5

4

Book Sale
Any 3 books for £14.50



Lee bought **these three** books in the sale for **£14.50**

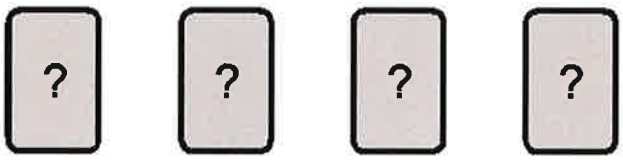
How much money did he save altogether compared to the **full price** of the books?

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

£

5 Debbie has a pack of cards numbered from 1 to 20

She picks four different number cards.



Exactly three of the four numbers are multiples of 5

Exactly three of the four numbers are even numbers.

All four of the numbers add up to less than 40

Write what the numbers could be.