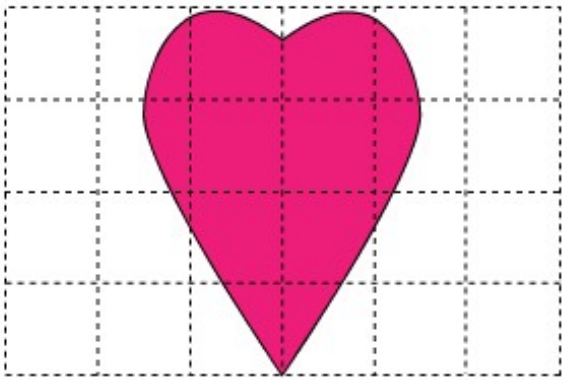
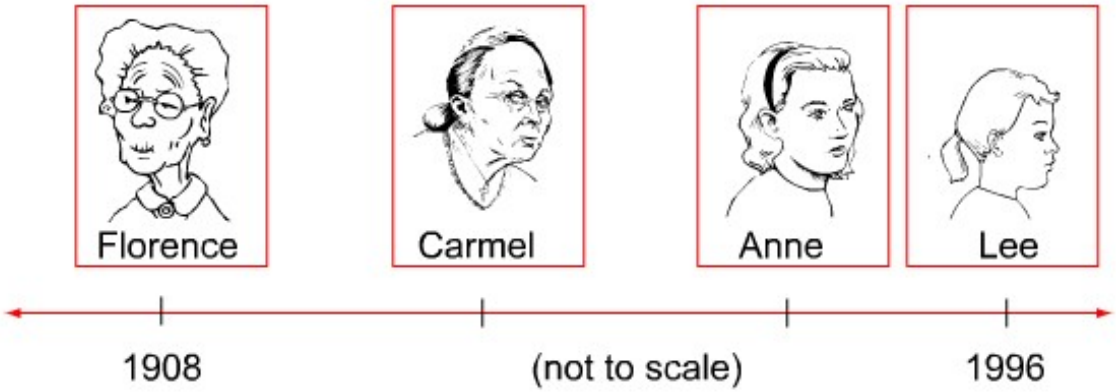
A grid is made up of small squares, each with side length 1 cm.



What is the closest estimate of the area of the heart?

- $4\ cm^2$
- $8\ cm^2$
- $12\ cm^2$
- $14\ cm^2$

Four generations of women were all born on the same day of different years. A timeline has been drawn to show their years of birth. Two of the years are missing.



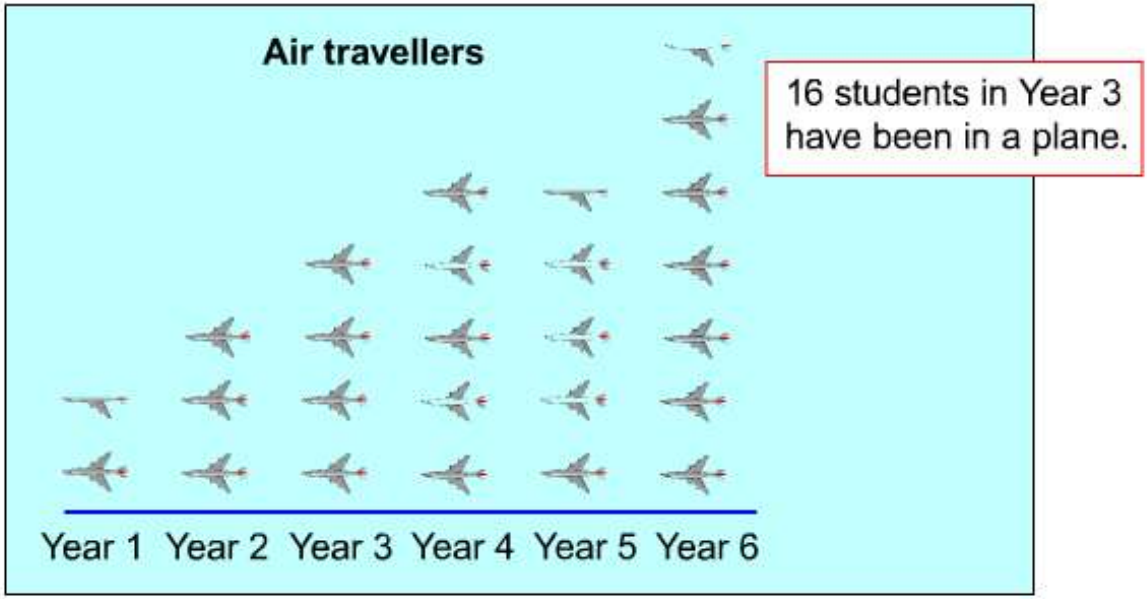
Florence was 24 years old when her daughter Carmel was born.

When Lee was born Anne was half the age of Carmel.

In what year was Anne born?

- 1949
- 1952
- 1956
- 1964

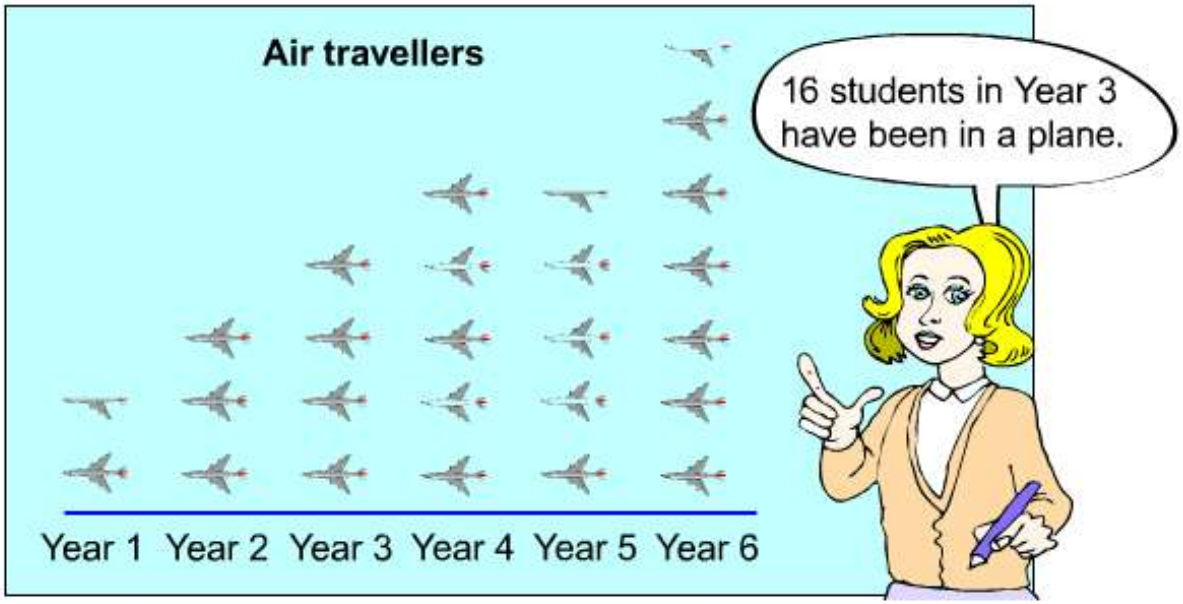
This graph shows the number of students in six different year groups who had travelled in a plane.



Which year group has three times as many travellers as Year 1?

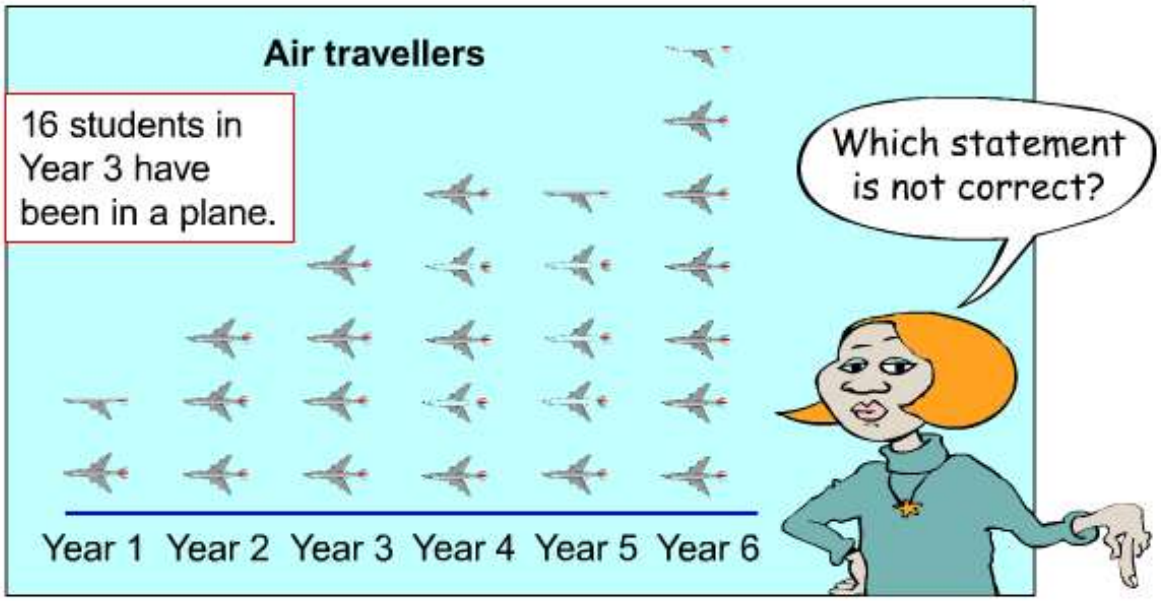
- Year 2
- Year 3
- Year 5
- Year 6

This graph shows the number of students in six different year groups who had travelled in a plane.



How many more students in Year 6 have travelled in a plane than Year 2 students?

- 3
- 12
- 14
- 26



- Twenty students from Year 4 have travelled in a plane.
- The total of Years 1 and 5 air travellers is equal to the number of Year 6 air travellers.
- Two more Year 4 students than Year 5 students have travelled in a plane.
- The least number of students from any year that travelled in a plane is 6.

Here is a number sentence:

$(9 + 3 + 4)\ \alpha\ (2 + 2) = 12$

What operation replaces the α to make the number sentence true?

Aussie Bread Company is purchasing flour and needs 600 kg.

How much will the company save by buying the 20 kg bags compared to the 6 kg bags?

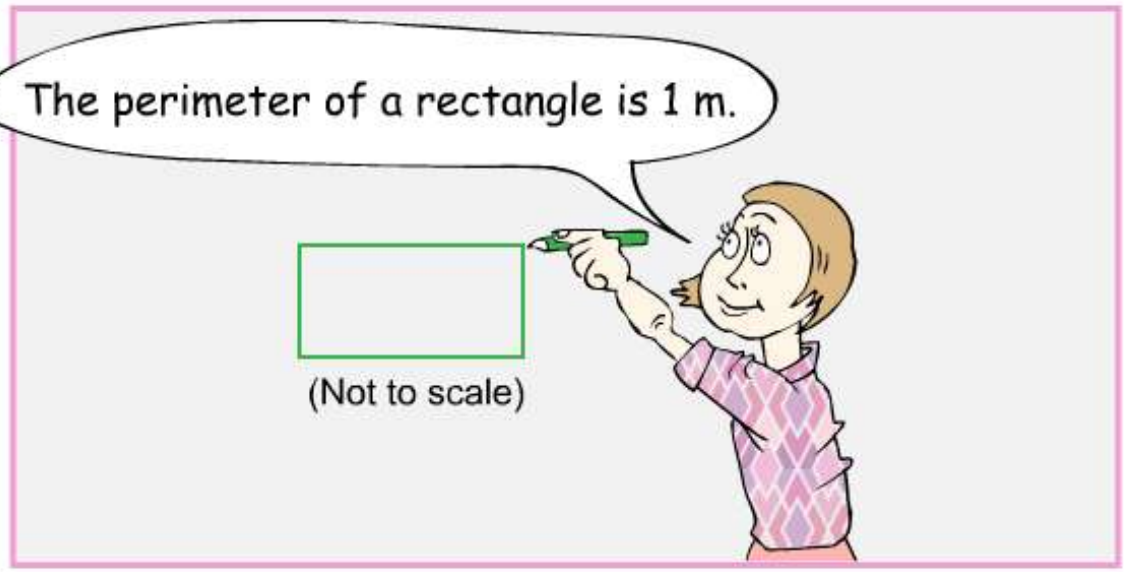
- $420
- $490
- $560
- $700

Shadrach finished work at 5:35 pm.

That was $8\frac{3}{4}$ hours after he started work.

What time did he commence work?

- 8:20 am
- 8:50 am
- 9:15 am
- 9:20 am



The width of the rectangle is one-fifth of the perimeter.

What is the length?

- 20 cm
- 30 cm
- 40 cm
- 80 cm

Suzie is a long-distance runner.

She can run 12 km in 1 hour.

If she is able to maintain the same speed, how far will she run in 1 h 40 min?

- 20 km
- 21 km
- 22.5 km
- 28 km

The odd numbers have been placed in a grid, following a pattern.

	A	B	C	D	E
1	1	3	5	7	9
2	11	13	15	17	19
3	21	23			
4					
...					

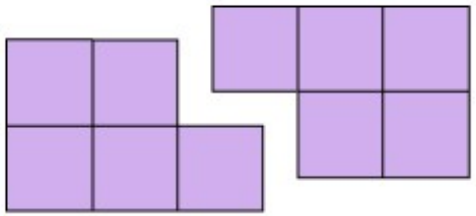
The number 17 is located at D2.

The pattern of numbers continues.

What is the location of 67?

- C6
- D6
- D7
- none of these

A shape is made up of five squares. Its perimeter is 20 cm.

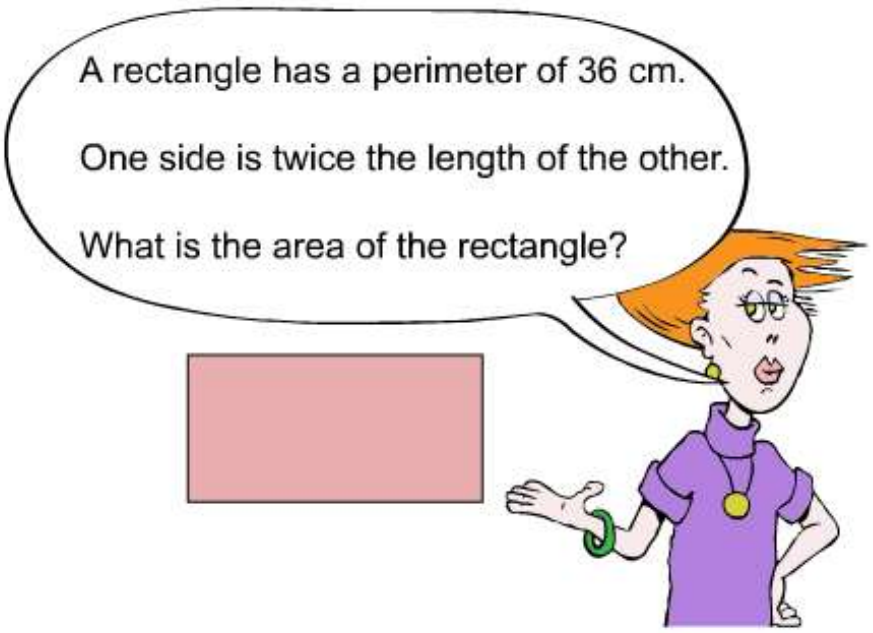


Kennedy has two of these shapes, both exactly the same.

He rotates the second shape and joins it to the first shape to form a rectangle.

What is the perimeter of the new rectangle?

- ⬭ 28 cm
- ⬭ 32 cm
- ⬭ 36 cm
- ⬭ 40 cm

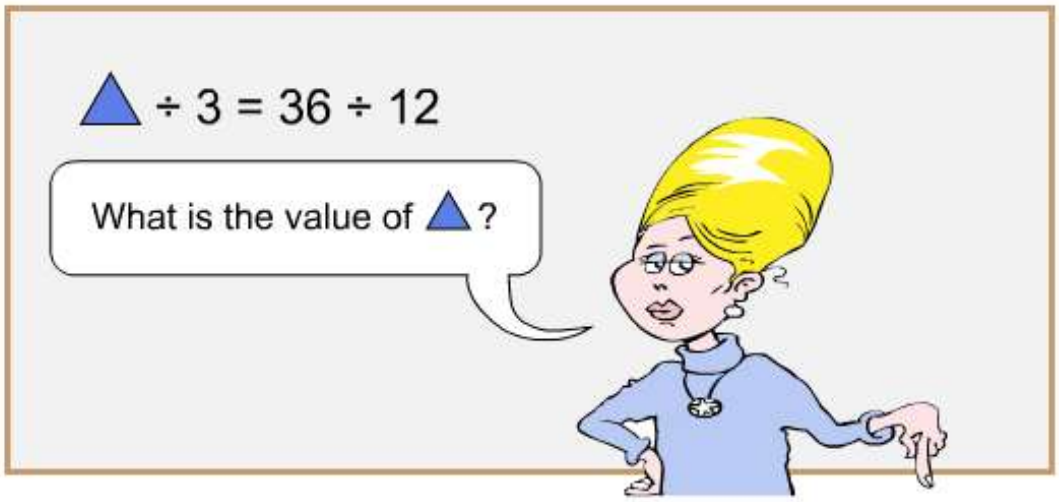


72 cm^2

144 cm^2

324 cm^2

400 cm^2



- 9
- 18
- 27
- 72

Rhianna starts to read a novel.

It has 120 pages.

On the first night she reads one-sixth of the book.

On the second night she reads one-fifth of the remaining pages of the book.

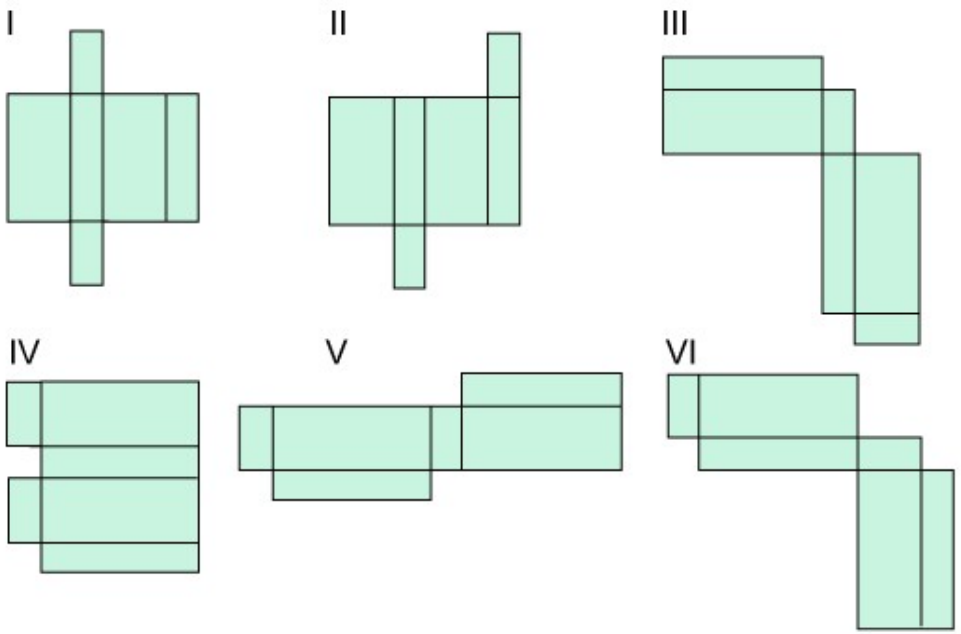
On the third night she reads one-quarter of the remaining pages of the book.

On the fourth night she reads one-third of the remainder of the book.

How many pages does she have left to read?

- ⬭ 20
- ⬭ 40
- ⬭ 50
- ⬭ 60

Which of the following nets will make a box?

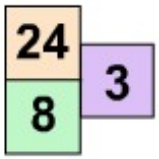


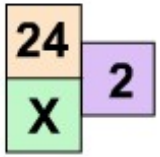
- I, II and V only
- III, IV and VI only
- I, II and VI only
- I, II, III, V and VI only

Sienna has a bottle of oil. The full bottle weighs 1500 g. She uses $\frac{1}{4}$ of the oil.
The bottle then weighs 1200 g.

What will the bottle weigh when only $\frac{1}{4}$ of the oil remains?

- 300 g
- 600 g
- 800 g
- 900 g



If the pattern above is repeated in 

what is the value of **X**?

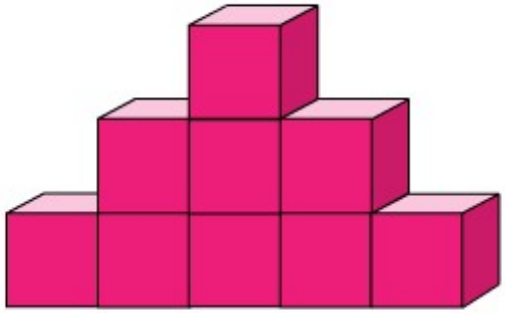
- 4
- 6
- 8
- 12

The L shape is following a pattern.

What is the rule that the pattern is following?

rotate the shape 30° clockwise	rotate the shape 30° anticlockwise	rotate the shape 60° clockwise	rotate the shape 60° anticlockwise

Will has made a three-storey tower from nine cubes.



Will walks around the table on which he has built his tower, looking at all the faces.

How many faces of cubes can Will not see?

- 29
- 25
- 13
- 15