

Square Numbers

Let's learn more about square numbers.

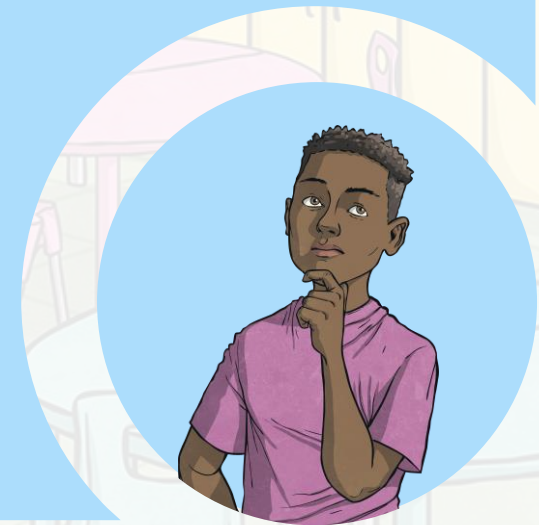


7^2 9^2
 2^2

11^2 6^2
 4^2

What is a Square Number?

A square number is the product you get when a number is multiplied by itself.



7² 9²
2²

11² 6²
4²

For Example...

$$2 \times 2 = 4$$

4 is a square number because it is
the product of 2 multiplied by 2

$$7^2 \quad 9^2 \quad 11^2 \quad 6^2 \\ 2^2 \quad 5 \times 5 = 25 \quad 4^2$$

Can you explain why 25 is a square number?

25 is a square number because it is the product of 5 multiplied by 5.

$$7^2 \quad 9^2 \quad 11^2 \quad 6^2$$
$$2^2 \quad 12 \times 12 = 144 \quad 4^2$$

**Can you explain why 144
is a square number?**

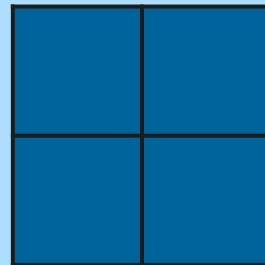
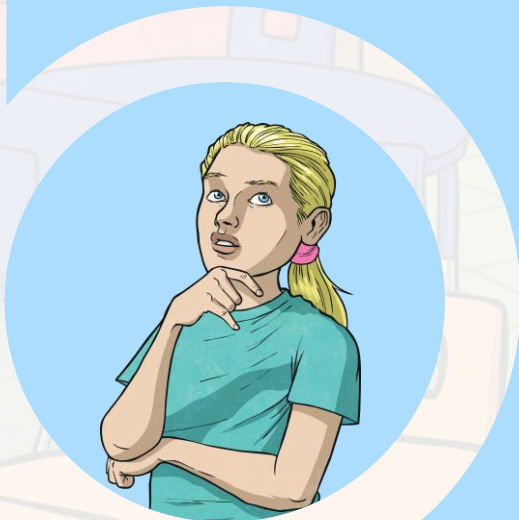
144 is a square number because it is
the product of 12 multiplied by 12.

7² 9²
2²

11² 6²
4²

Where do square numbers get their name?

Square numbers get their name from the square shape they can make.

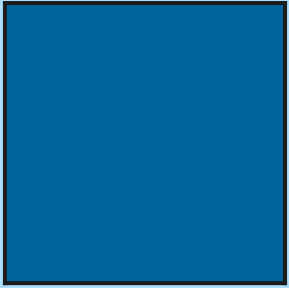


This square shows
 $2 \times 2 = 4$

7² 9²
2²

11² 6²
4²

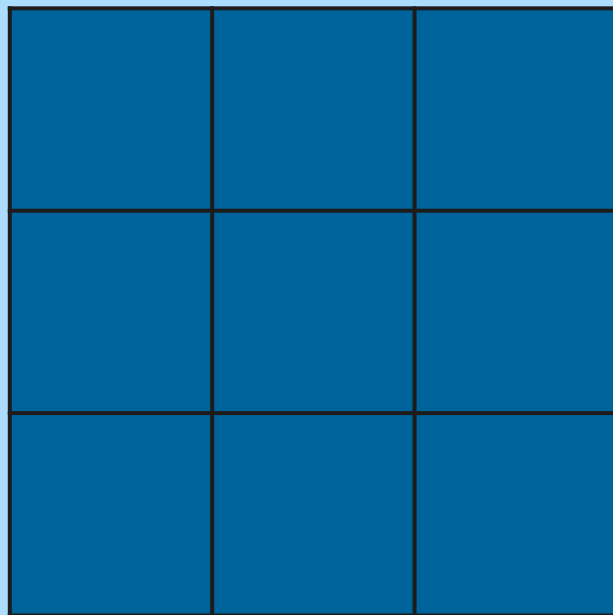
Let's look at more
square numbers!



This shows $1 \times 1 = 1$

72 92
22

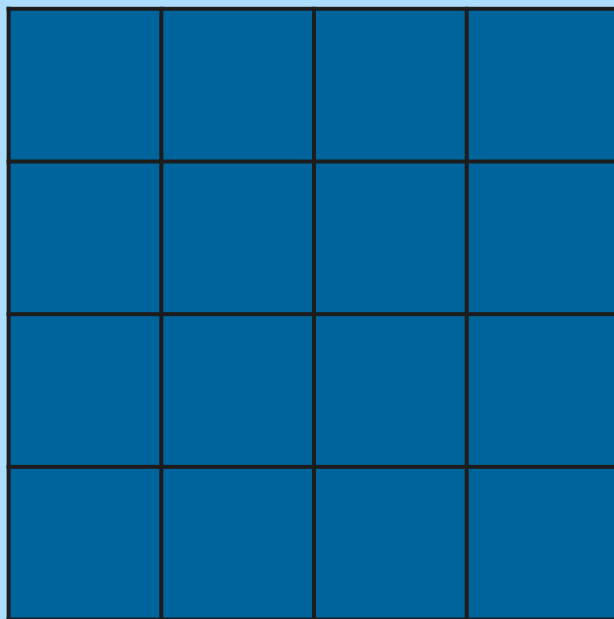
112 62
42



This shows $3 \times 3 = 9$

72 92
22

112 62
42



This shows $4 \times 4 = 16$

7²
2²

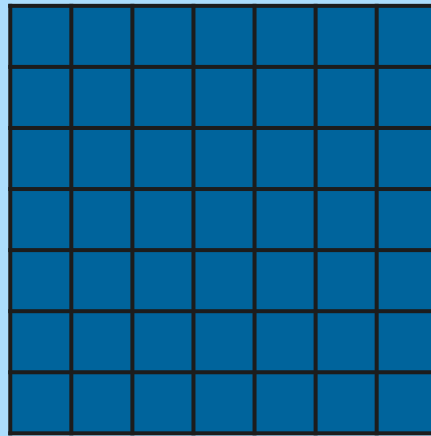
9²

11²

6²

4²

Can you work out what square number is illustrated here?



This shows $7 \times 7 = 49$

7²
2²

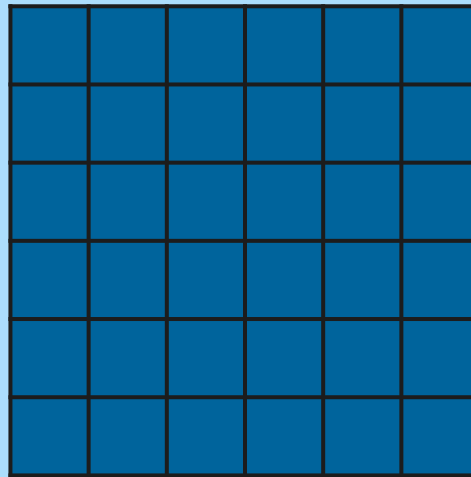
9²

11²

6²

4²

Can you work out what square number is illustrated here?

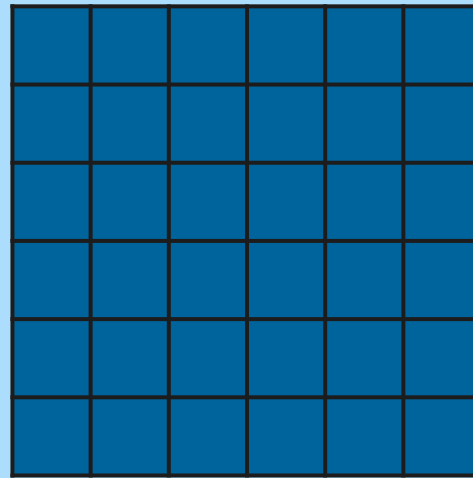


This shows $6 \times 6 = 36$

7² 9²
2²

11² 6²
4²

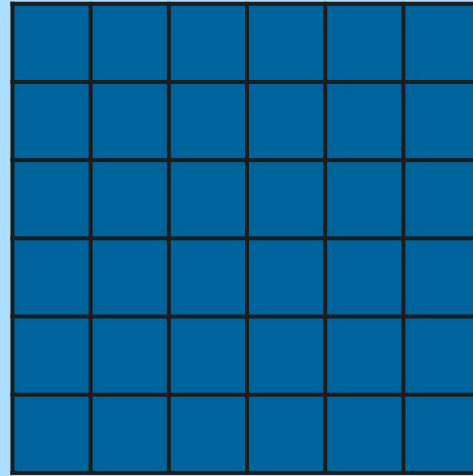
$$6 \times 6 = 36$$



We can also write this as $6^2 = 36$

7^2 9^2
 2^2

11^2 6^2
 4^2

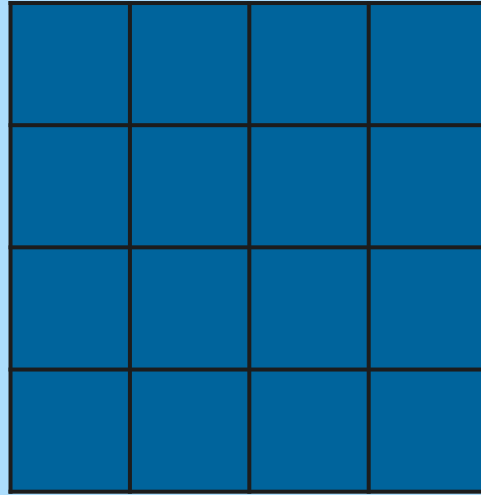


If $6 \times 6 = 36$ we can say that the square root of 36 is 6.

This is how we write it, $\sqrt{36} = 6$

7^2 9^2
 2^2

11^2 6^2
 4^2



$$4 \times 4 = 16$$

or

$$4^2 = 16$$

7²

9²

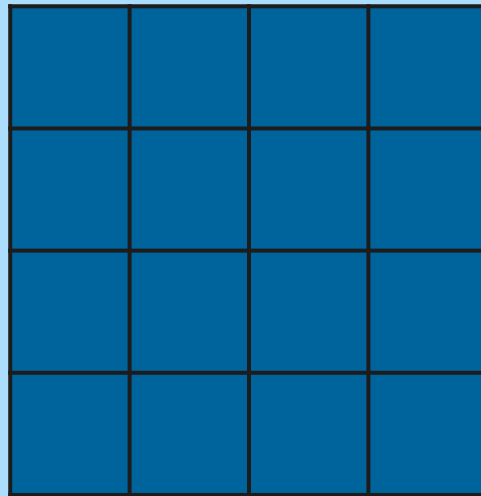
11²

6²

What is the square root of 16?

4²

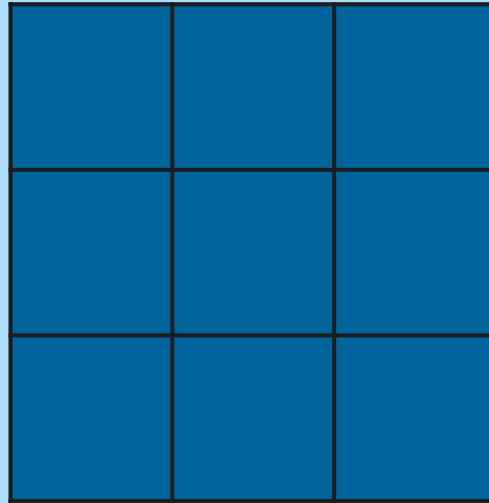
2²



$$4^2 = 16, \text{ therefore } \sqrt{16} = 4$$

7² 9²
2²

11² 6²
4²



$$3 \times 3 = 9$$

or

$$3^2 = 9$$

7^2

9^2

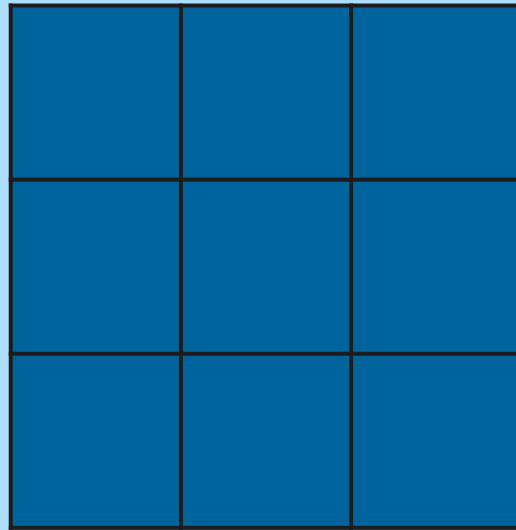
11^2

6^2

4^2

What is the square root of 9?

2^2



$$3^2 = 9, \text{ therefore } \sqrt{9} = 3$$

7²
2²

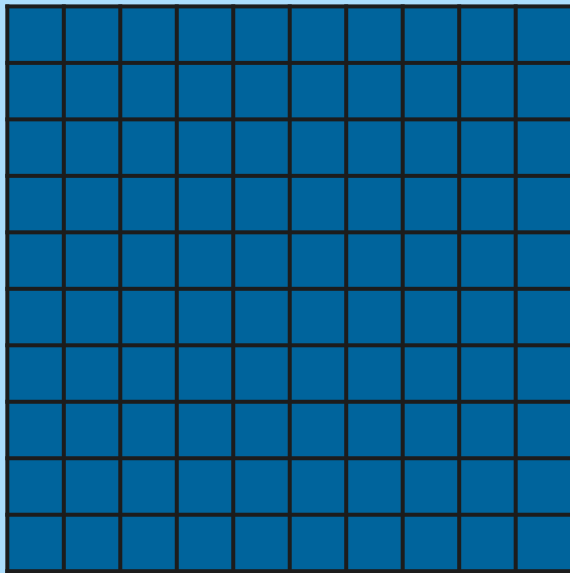
9²

11²

6²

4²

Can you figure out the blanks below
using this illustration to help?



$$10^2 = 100$$

therefore

$$\sqrt{100} = 10$$