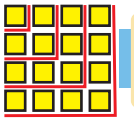
4:04 Square numbers



1 + 3 + 5 gives a square number, so does 1 + 3 + 5 + 7.

(Multiplication and Division)

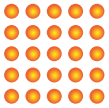
1 Use each square array to find the square number.

$1 \times 1 =$ ____

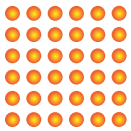
$2 \times 2=$ ____

$3 \times 3 =$ ____

$4 \times 4 =$ ____



$5 \times 5 =$ ____

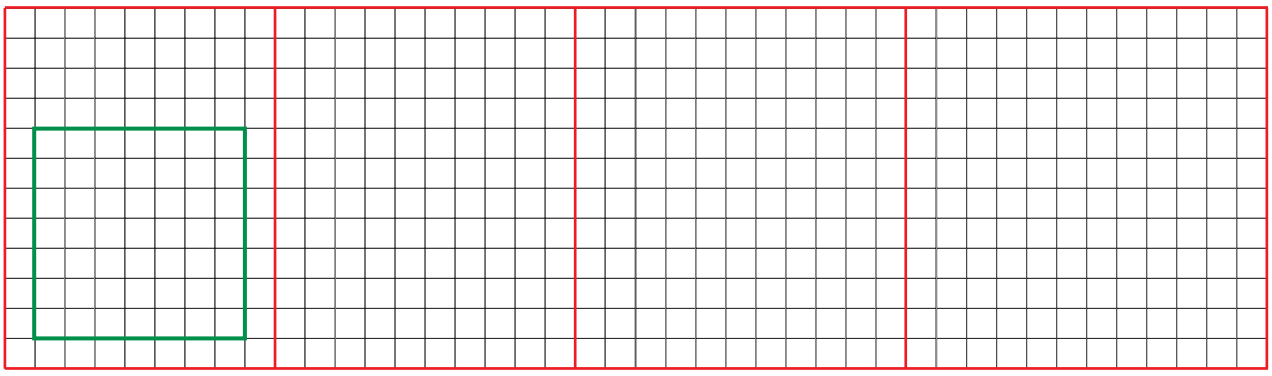


$6 \times 6 =$ ____

A square number is made when a number is multiplied by itself.

2 On the grid paper, colour squares to show:

a 7×7 **b** 8×8 **c** 9×9 **d** 10×10



____ is 7 squared.

____ is 8 squared.

____ is 9 squared.

____ is 10 squared.

4 x 4 can be read as '4 squared'.

3 Complete this pattern to make the square numbers.

$2^2 = 1^2 + 1 + 2 = 4$,

$3^2 = 2^2 + 2 + 3 = 9$,

$4^2 = 3^2 + 3 + 4 = 16$,

$5^2 = 4^2 + 4 + 5 = 25$,

$6^2 = 5^2 + 5 + 6 =$ ____,

$7^2 = 6^2 + 6 + 7 =$ ____,

$8^2 = 7^2 + 7 + 8 =$ ____,

$9^2 = 8^2 + 8 + 9 =$ ____,

$10^2 = 9^2 +$ ____ + ____ = ____

$11^2 = 10^2 +$ ____ + ____ = ____

$12^2 = 11^2 +$ ____ + ____ = ____

$13^2 = 12^2 +$ ____ + ____ = ____

4 Use a calculator and the pattern found in Question 3 to fill in the boxes.

a $25^2 =$ ____ + ____ + ____ = ____

b $29^2 =$ ____ + ____ + ____ = ____

c $22^2 =$ ____ + ____ + ____ = ____

d $27^2 =$ ____ + ____ + ____ = ____

e $28^2 =$ ____ + ____ + ____ = ____

This is how you set it out.

$31^2 = 900 + 30 + 31 = 961$

$32^2 = 961 + 31 + 32 = 1024$

©Alan McSeveny