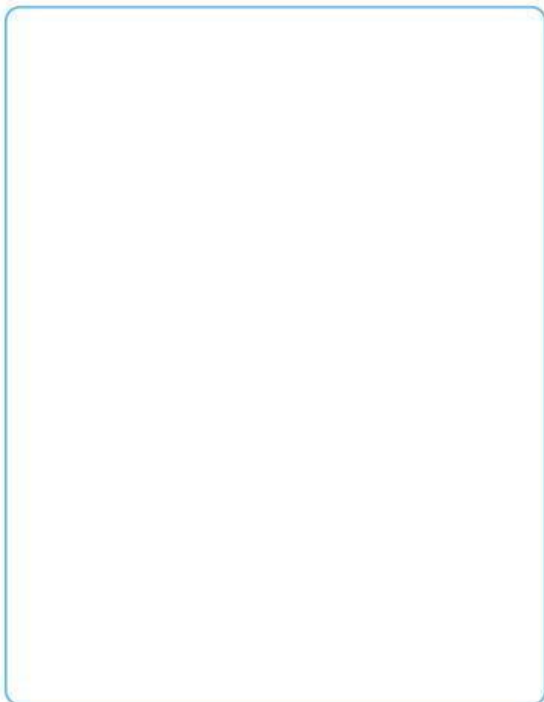


## Square and cube numbers

- 1 Use counters to show that 4, 9 and 16 are square numbers.  
Draw your answers.




- 2 Match the representations to the labels.



4 cubed



3 squared



$4 \times 4$

$4^2$

$2^3$

- 3 Here is a  $2 \times 2 \times 2$  cube made of 8 small cubes.  
How many small cubes do you need to build  
a  $3 \times 3 \times 3$  cube?



- 4 Complete the table.

|   |                       |    |
|---|-----------------------|----|
| $2^2$   | $2 \times 2$          | 4  |
| $2^3$   | $2 \times 2 \times 2$ |    |
| $3^2$   |                       |    |
| $3^3$   |                       |    |
| <div style="border: 1px solid black; width: 30px; height: 20px; display: inline-block;"></div> <sup>2</sup> |                       | 25 |
|   | $5 \times 5 \times 5$ |    |



- 5 Write  $<$ ,  $>$  or  $=$  to complete the statements.

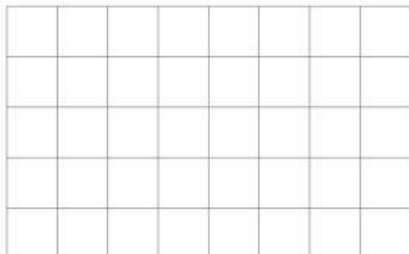
2 squared  2 cubed

2 squared   $2 \times 2$

2 squared  4

2 squared  1 cubed

- 6 Draw 3 straight lines to split this grid into 3 squares and 1 rectangle.



- 7 Find four square numbers between 100 and 200.

- 8 Dexter works out 20 squared.

Annie works out 20 cubed.

Find the difference between Dexter's and Annie's numbers.

- 9 a)

I am thinking of two numbers. When I add them, I get a prime number. When I multiply them, I get a square number.



What numbers could Mo be thinking of?

- b)



I am thinking of two numbers. When I add them, I get a square number. When I multiply them, I get a prime number.

What numbers could Alex be thinking of?