



# Superhero Powers

I can write and calculate square and cubed numbers and powers.



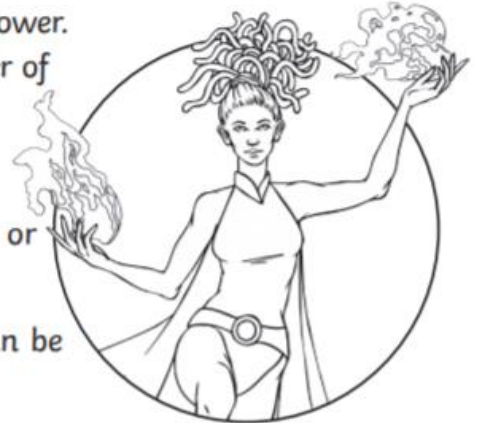
Remember:

When we see a little digit next to a whole number, this is called a power. It means we need to multiply the number by itself the given number of times. It is to save you writing out long calculations like this:

$$3 \times 3 \times 3 \times 3 \times 3 \times 3 = 729$$

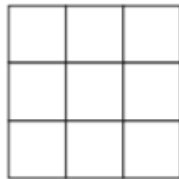
Instead, we would write  $3^6$ , which means 3 to the power of 6 or  $3 \times 3 \times 3 \times 3 \times 3 \times 3$ .

When the power is  $^2$ , we call this a square number because it can be expressed as a 2D square (it has length and width).

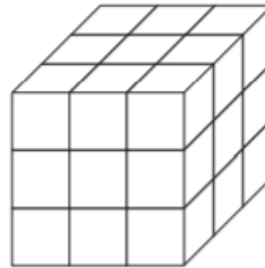


When the power is  $^3$ , we call this a cube number because it can be expressed as a 3D cube (it has length, width and height).

$$3^2 = 9$$



$$3^3 = 27$$



The inverse process to squaring and cubing numbers is finding the square and cube root.

$\sqrt{\quad}$  means square root ( $? \times ? = \text{this number}$ );  $\sqrt[3]{\quad}$  means cube root ( $? \times ? \times ? = \text{this number}$ ).

Solve these like the superhero that you are!

1)  $12^2$  \_\_\_\_\_

2)  $\sqrt{64}$  \_\_\_\_\_

3)  $\sqrt{2500}$  \_\_\_\_\_

4)  $22^2$  \_\_\_\_\_

5)  $11^3$  \_\_\_\_\_

6)  $5^3$  \_\_\_\_\_

7)  $\sqrt[3]{27}$  \_\_\_\_\_

8)  $12^4$  \_\_\_\_\_

9)  $2^7$  \_\_\_\_\_

10)  $6^4$  \_\_\_\_\_

11)  $\sqrt{169}$  \_\_\_\_\_

12)  $4^3$  \_\_\_\_\_

13)  $3^7$  \_\_\_\_\_

14)  $\sqrt[3]{8}$  \_\_\_\_\_

15)  $\sqrt{10\,000}$  \_\_\_\_\_

16)  $15^2$  \_\_\_\_\_

17)  $\sqrt[3]{216}$  \_\_\_\_\_

18)  $\sqrt{121}$  \_\_\_\_\_

19)  $9^5$  \_\_\_\_\_

20)  $15^3$  \_\_\_\_\_