Part 1

WALT Calculate Square and Cube Numbers

See my notes in green – and the video clip on slide 3 – to help you.

Remember…

Square numbers are the product of a number that is multiplied by itself (so 4 is a square number because it is the product of 2 X 2).

Cube numbers are the product of a number multiplied by itself and then multiplied by itself again. (so 16 is a cube number because it is the product of 2X2X2).

It's useful to know that the number that is multiplied by itself to make the square number is called the <u>square root</u>. So 2 is the square root of 4 because 2x2=4. This is the symbol for square root: $\sqrt{}$

The number that a cube number is made from is called the <u>cube root</u>. So the cube root of 16 is 2 because 2x2x2=16. This is the symbol for cube root: $\sqrt[3]{}$

The video clip below (also posted yesterday) offers a great explanation for how to quickly calculate cube roots. Watch it and copy the table of products of cube roots from 1-10 to help you solve the cube number problems you'll be tackling today – then learn the trick. Bonus points if you can teach a family member the trick too!

https://www.youtube.com/watch?v=Ds8ijPsg26g

Circle the square numbers and underline the cube numbers.

36	343	150	25
729	1,728	90	144
65	1,000	27	16

Circle the square numbers and underline the cube numbers.

36=6x6, 25=5x5, 144=12x12, 16=4x4. 343 =7x7x7, 729=9x9x9, 1728=12x12x12, 1000=10x10x10, 27=9x9x9

(36)   __343__   150   **(25)**

__729__   __1,728__   90   **(144)**

65   __1,000__   __27__   **(16)**

Complete the calculations.

$$9^2 = \boxed{}$$

$$11^3 = \boxed{}$$

$$10^2 = \boxed{}$$

Complete the calculations.

$9^2 =$ 81

$11^3 =$ 1,331

$10^2 =$ 100

Calculate then order from smallest to largest.

11^2

10^3

8^3

6^3

7^2

Calculate then order from smallest to largest.

11^2

10^3

8^3

6^3

7^2

$7^2 = 49$, $11^2 = 121$, $6^3 = 216$, $8^3 = 512$, $10^3 = 1,000$

Find the pattern.

What are the missing numbers in the sequence? *HINT: Find the cube root of the numbers you have been given below. Look for the pattern to find the last 2 cube numbers.*

1,331,   729,   343, ☐ **,** ☐

Find the pattern.

What are the missing numbers in the sequence?
Did you spot the pattern? The cube roots are odd numbers in descending order – starting with 11 (the cube root of 1331), 9 (the cube root of 729), 7 (the cube root of 343). So the 4th number in the sequence has a cube root of 5 (so calculate 5x5x5) and the final number in the sequence has a cube root of 3 (3x3x3).

1,331,   729,   343,   125 ,   27

Well done! It's over to you now.

Go to Part 2 and choose your challenge! Normal rules apply: page 1 will give you an easier challenge, page 2 will be about the same as what we've just practised and page 3 will be more of a stretch.

You only need to do the first set of questions on your chosen challenge – the 'A' questions. If you want extra practice, you can then do the 'B' questions of your chosen challenge page. When you finish, don't forget to mark your answers before sharing, so I can see where you need help.