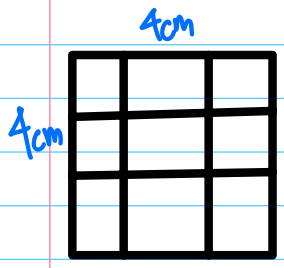
INTRO to SQUARES^2



1 DIMENSION (L) × 1 DIMENSION (W) = 2 DIMENSIONS

AREA of A SQUARE = SIDE × SIDE = SIDE^2

4cm × 4cm = 16cm^2

2 DIMENSIONS

FIGURES MEASURED in 2D UNITS^2 HAVE 2 DIMENSIONS (L & W). OBJECTS in 3D UNITS^3 HAVE 3 DIMENSIONS (L & W & H)

$4^2 = 16$

MEANS = "SQUARED" → "4 SQUARED EQUALS 16"

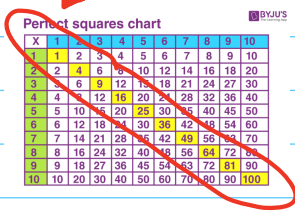
THE # of TIMES the NUMBER SHOWS in MULTIPLICATION

SO... $4^2 = 4 \times 4$ / $4^3 = 4 \times 4 \times 4$

A "SQUARED" NUMBER = X BY ITSELF

A **PERFECT SQUARE** = A POSITIVE INTEGER MULTIPLIED BY ITSELF

4		2^2 or 2 x 2 = 4
9		3^2 or 3 x 3 = 9
16		4^2 or 4 x 4 = 16
25		5^2 or 5 x 5 = 25
36		6^2 or 6 x 6 = 36



X	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

TERMINOLOGY
"How we can READ this"

1 - What is the SQUARE of 3?
2 - What is 3 SQUARE?
3 - What is 3 to the POWER of 2?

→ All the same for 3^2

What is...

A) THE SQUARE of 8?
$8^2 = 8 \times 8 = \boxed{64}$

B) 10 SQUARED?
$10^2 = 10 \times 10 = \boxed{100}$

C) 5 to the POWER of 2?
$5^2 = 5 \times 5 = \boxed{25}$

WHAT IS THE SIDE LENGTH OF A SQUARE W/ AN AREA OF...

A) $100\ m^2$ B) $64\ cm^2$ C) $81\ mm^2$ D) $49\ km^2$

$\sqrt{100}$ $\sqrt{64}$ $\sqrt{81}$ $\sqrt{49}$

"WHAT NUMBER CAN BE MULTIPLIED BY ITSELF TO EQUAL..."

$= 10m$ $= 8cm$ $= 9mm$ $= 7km$

Word Problem

The floor of a large square room has an area of 64 m^2

A) Find the length of a side of the room.

$\sqrt{64}$ = 2 #'s MULTIPLIED TO 64 = $8m$

B) How much baseboard is needed to go around the room?

$8 \times 4 = 32m$

C) Each piece of baseboard is 2.5 m long. How many pieces of baseboard are needed?

$2.5 \times X = 32$

$2.5x = 32$

$x = 12.8$

12.8 PIECES