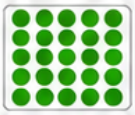
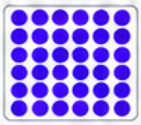
SQUARES AND ROOTS

x^2 SQUARING A NUMBER MEANS...

- Multiply a number by itself: (3 x 3)
- Raise a number to the power of 2: (4^2)
- The area of a square shape equals the length of one side squared

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

□ PERFECT SQUARES ARE...

- A number multiplied by itself
- Made by squaring a whole number

$1^2 = 1$	$11^2 = 121$	$21^2 = 441$	$31^2 = 961$
$2^2 = 4$	$12^2 = 144$	$22^2 = 484$	$32^2 = 1024$
$3^2 = 9$	$13^3 = 169$	$23^3 = 529$	$33^2 = 1089$
$4^2 = 16$	$14^2 = 196$	$24^2 = 576$	$34^2 = 1156$
$5^2 = 25$	$15^2 = 225$	$25^2 = 625$	$35^2 = 1225$
$6^2 = 36$	$16^2 = 256$	$26^2 = 676$	$36^2 = 1296$
$7^2 = 49$	$17^2 = 289$	$27^2 = 729$	$37^2 = 1369$
$8^2 = 64$	$18^2 = 324$	$28^2 = 784$	$38^2 = 1444$
$9^2 = 81$	$19^2 = 361$	$29^2 = 841$	$39^2 = 1521$
$10^2 = 100$	$20^2 = 400$	$30^2 = 900$	$40^2 = 1600$

≠ NON-PERFECT SQUARES ARE...

- Nonnegative whole numbers whose square roots do NOT result in a whole number.
- Their square roots are irrational and can be approximated.

$\sqrt{6} \approx 2.45$ | $\sqrt{61} \approx 7.81$

$\sqrt{229} \approx 15.13$

√ THE SQUARE ROOT OF A NUMBER IS...

- The opposite or inverse of squaring a number.
- The side length of a square shape (or the square root of the aresa).

$\sqrt{1} = 1$	$\sqrt{49} = 7$	$\sqrt{169} = 13$
$\sqrt{4} = 2$	$\sqrt{64} = 8$	$\sqrt{196} = 14$
$\sqrt{9} = 3$	$\sqrt{81} = 9$	$\sqrt{225} = 15$
$\sqrt{16} = 4$	$\sqrt{100} = 10$	$\sqrt{289} = 17$
$\sqrt{25} = 5$	$\sqrt{121} = 11$	$\sqrt{324} = 18$
$\sqrt{36} = 6$	$\sqrt{144} = 12$	$\sqrt{361} = 19$

QUICK TIP: If the last digit of a whole number is 2, 3, 7, or 8, then the number is NOT a perfect square!