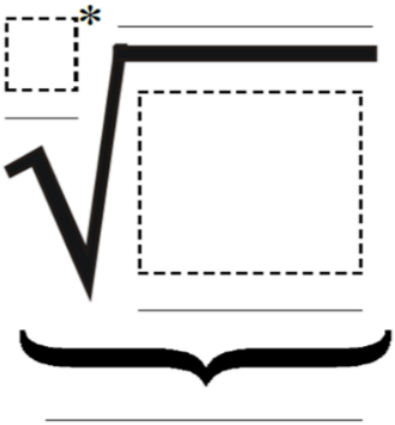
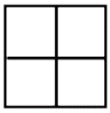
Square Roots of Perfect Squares: Guided Notes

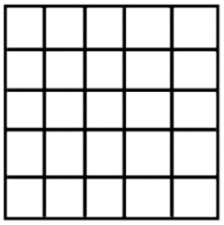
Parts of a Radical



If there is no index, the index is ___.

Square roots are based on squares!





A _____ _____ is a number whose square root is a rational number.

$36 \longrightarrow \sqrt{36}$

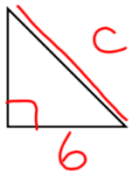
$0.36 \longrightarrow \sqrt{0.36}$

$\frac{36}{4} \longrightarrow \sqrt{\frac{36}{4}}$

Finding the square root of a number is the _____ operation of _____ a number.

$\sqrt{4} = \square$	$\square^2 = 4$
$\sqrt{25} = \square$	$\square^2 = 25$
$\sqrt{49} = \square$	$\square^2 = 49$

Common Error: $\boxed{6}^2 \neq \sqrt{36}$

Ex 1: Evaluate	Ex 2: Squaring (Find a number whose square root is x)
RULE: You can't take the square root of a negative number!	Calculate a number whose square root is 5. Calculate a number whose square root is 7
Ex 3: Fractions as radicands	Ex 4: Decimals as radicands
$\sqrt{\frac{4}{25}} = \frac{\sqrt{4}}{\sqrt{25}} =$ $\sqrt{\frac{25}{49}} = \frac{\sqrt{25}}{\sqrt{49}} =$	√ 64 √ 6.4 √ 0.64 √ 0.064 √ 0.0064 √ 0.00064 $\sqrt{0.64} = \sqrt{\frac{64}{100}} =$ RULE: A decimal number is a perfect square if it has an **even number of decimal places** and **the number, if the decimal were to be removed, would be a perfect square.**
Ex 5: Pythagorean's Theorem (Find Hypotenuse)	Ex 6: Pythagorean's Theorem (Have Hypotenuse)
$a^2+b^2=c^2$ 	$c^2-b^2=a^2$