

SPECIAL RIGHT TRIANGLES TOOLKIT

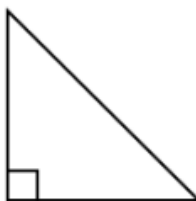
<p>SIMPLIFYING Radicals</p>	<p>Radicals can be simplified by factoring out _____ from the number inside of the square root.</p> <p>A radical is completely simplified when you can no longer factor out perfect squares from the number inside of the _____ .</p> <p>After factoring out a perfect square from the number inside of the square root, you can use the following rule:</p> <p>Examples:</p> <p>1. $\sqrt{99}$ 2. $\sqrt{108}$ 3. $\sqrt{30}$</p>
<p>RATIONALIZING Denominators OF FRACTIONS</p>	<p>A number is _____ if it cannot be written as a fraction of two integers.</p> <p>Irrational numbers are still _____ .</p> <p>When solving special right triangles, often times we got solutions where there is an irrational number in the _____ .</p> <p>We can rewrite these solutions, so that the denominator is rationalized.</p> <p>Example: $\frac{4}{\sqrt{2}}$</p>

$45^\circ-45^\circ-90^\circ$
Special Right
TRIANGLES

A $45^\circ - 45^\circ - 90^\circ$ triangle is an _____ .

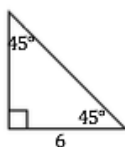
You only need one side length of a $45^\circ - 45^\circ - 90^\circ$ triangle to determine the remaining two side lengths.

The rule for special right triangles is as follows:

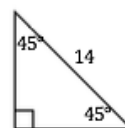


Examples: Solve for the missing side lengths of the triangles below.

1.



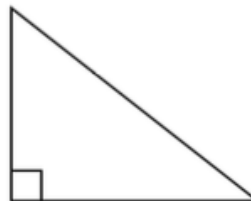
2.



$30^\circ-60^\circ-90^\circ$
Special Right
TRIANGLES

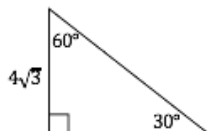
You only need one side length of a $30^\circ - 60^\circ - 90^\circ$ triangle to determine the remaining two side lengths.

The rule for special right triangles is as follows:

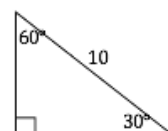


Examples: Solve for the missing side lengths of the triangles below.

1.



2.



*Hint: **Be careful** on Example #1!! Check your angles.