# Simplifying Radicals $\sqrt{\ }$

## Method 1 (for perfect squares)

$\sqrt{4} = 2$
$\sqrt{9} = 3$
$\sqrt{16} = 4$
$\sqrt{121} = 11$
$\sqrt{100} = 10$
$\sqrt{81} = 9$
$\sqrt{25} = 5$
$\sqrt{36} = 6$
$\sqrt{49} = 7$
$\sqrt{64} = 8$

4, 9
16, 25
36, 49, ...
perfect squares

## Method 2 (using perfect squares)

$\sqrt{8} = \sqrt{4 \cdot 2}$
$\sqrt{8} = 2\sqrt{2}$

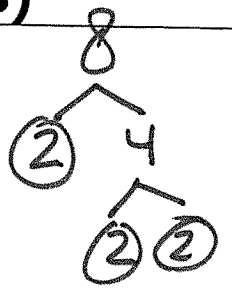
$\sqrt{18} = \sqrt{9 \cdot 2}$
$\sqrt{18} = 3\sqrt{2}$

$\sqrt{24} = \sqrt{4 \cdot 6} = \sqrt{4}\sqrt{6}$
$\sqrt{24} = 2\sqrt{6}$

$\sqrt{112} = \sqrt{16 \cdot 7}$
$= 4\sqrt{7}$

## Method 3 (listing factors)

$\sqrt{8}$
$\sqrt{2 \cdot 2 \cdot 2}$
$2\sqrt{2}$




$\sqrt{18}$
$\sqrt{2 \cdot 3 \cdot 3}$
$3\sqrt{2}$