

Simplify Radicals

Review

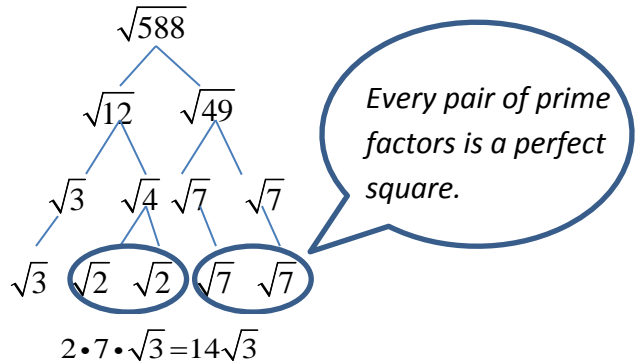
When we find the square root of a number that is not a perfect square, we write the number in simplified radical form. A radical is in simplified radical form if there is no perfect square factor under the radical.

Recall:  $\sqrt{ab} = \sqrt{a} \cdot \sqrt{b}$

Example Problem:  $\sqrt{588} = ?$

$$\begin{aligned} \sqrt{588} &= \sqrt{4 \cdot 49 \cdot 3} \\ \text{Therefore, } \sqrt{588} &= 2 \cdot 7 \cdot \sqrt{3} \\ \sqrt{588} &= 14\sqrt{3} \end{aligned}$$

OR



Simplify:

- 1)  $\sqrt{75}$
- 2)  $\sqrt{8}$
- 3)  $\sqrt{32}$
- 4)  $\sqrt{125}$
- 5)  $\sqrt{80}$
- 6)  $\sqrt{108}$
- 7)  $\sqrt{20}$
- 8)  $\sqrt{72}$
- 9)  $\sqrt{150}$
- 10)  $\sqrt{28}$
- 11)  $\sqrt{45}$
- 12)  $\sqrt{600}$

Reverse the process. Un-simplify the simplified radical form. Write as one number under the radicand.

- 13)  $2\sqrt{11}$
- 14)  $5\sqrt{11}$
- 15)  $4\sqrt{6}$

16) Susan was asked to simplify  $\sqrt{1200}$ . Her final answer was  $10\sqrt{12}$ . Was she correct? Why or why not?