

11.2 Practice B (Simplifying Radicals)

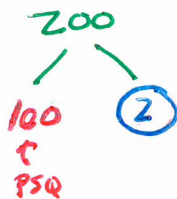
Date _____ Period _____

Simplify the radicals. No Calculator allowed.

1) $\sqrt{200}$

$\sqrt{100} \sqrt{2}$

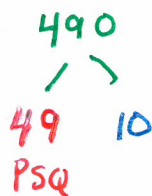
$\boxed{10\sqrt{2}}$



3) $\sqrt{490}$

$\sqrt{49} \sqrt{10}$

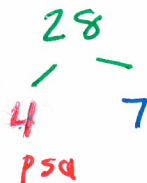
$\boxed{7\sqrt{10}}$



5) $\sqrt{28}$

$\sqrt{4} \sqrt{7}$

$\boxed{2\sqrt{7}}$



7) $\sqrt{900} = \boxed{30}$

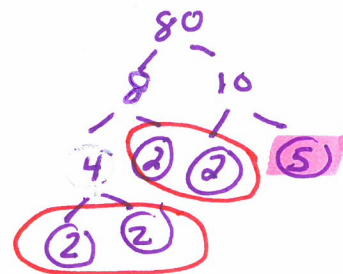
900 is a perfect SQ!

2) $\sqrt{80}$

Perfect SQ =
 $2 \cdot 2 \cdot 2 \cdot 2 = 16$

$\sqrt{16} \sqrt{5}$

$\boxed{4\sqrt{5}}$



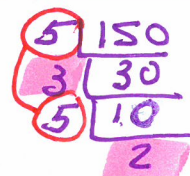
4) $\sqrt{150}$

Perfect SQ =
 $5 \cdot 5 = 25$

$\sqrt{25} \sqrt{6}$

$\boxed{5\sqrt{6}}$

OPTION 2 - FACTOR LADDER:



6) $\sqrt{32}$

$\sqrt{16} \sqrt{2} = \boxed{4\sqrt{2}}$

The largest perfect SQUARE

OPTION 3 - KNOW

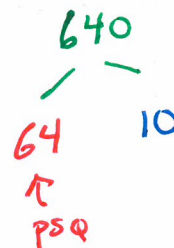
Your Perfect SQ's

4, 9, 16, 25, 36,
 49, 64, 81, 100...

8) $\sqrt{640}$

$\sqrt{64} \sqrt{10}$

$\boxed{8\sqrt{10}}$



No calculator: LEAVE ANSWERS AS SIMPLIFIED IMPROPER FRACTIONS !!!!

Simplify the fractions.

$$9) \frac{\sqrt{4}}{\sqrt{9}} \rightarrow \boxed{\frac{2}{3}}$$

$$10) \frac{\sqrt{8}}{\sqrt{36}} \rightarrow \frac{\sqrt{2}\sqrt{4}}{6} \rightarrow \frac{\cancel{2}\sqrt{2}}{\cancel{6}_3} = \boxed{\frac{\sqrt{2}}{3}}$$

$$11) \frac{\sqrt{20}}{\sqrt{64}} \rightarrow \frac{\sqrt{5}\sqrt{4}}{8} \rightarrow \frac{2\sqrt{5}}{8} = \boxed{\frac{\sqrt{5}}{4}}$$

$$12) \frac{\sqrt{16}}{\sqrt{4}} \rightarrow \frac{4}{2} = \boxed{2}$$

Simplify.

$$13) 5\sqrt{32} \rightarrow 5 \cdot \sqrt{16}\sqrt{2} \rightarrow 5 \cdot 4\sqrt{2} = \boxed{20\sqrt{2}}$$

$$32 \rightarrow \begin{matrix} 16 & 2 \\ \uparrow & \text{psq} \end{matrix}$$

$$14) -2\sqrt{100} \leftarrow \text{Perfect sq} \rightarrow -2 \cdot 10 = \boxed{-20}$$

$$15) -4\sqrt{80} \rightarrow -4 \cdot \sqrt{16}\sqrt{5} \rightarrow -4 \cdot 4\sqrt{5} = \boxed{-16\sqrt{5}}$$

$$80 \rightarrow \begin{matrix} 16 & 5 \\ \uparrow & \text{psq} \end{matrix}$$

$$16) 5\sqrt{18} \rightarrow 5 \cdot \sqrt{9}\sqrt{2} \rightarrow 5 \cdot 3\sqrt{2} = \boxed{15\sqrt{2}}$$

$$18 \rightarrow \begin{matrix} 9 & 2 \\ \uparrow & \text{psq} \end{matrix}$$