

Starter:

1. Compare the following two numbers using  $<$ ,  $>$ , or  $=$ .

$$8^2 \underline{>} \sqrt[3]{1000} = \textcircled{10}$$

64                      10                       $10^3 = 1000$

2. Simplify:  $\sqrt{125} < \frac{25}{5} < \frac{5}{5} = \sqrt{\textcircled{5 \cdot 5} \cdot 5} = 5\sqrt{5}$

3. What integers is closest to  $\sqrt[3]{70} =$

Simplify

Between  $\frac{4}{4 \cdot 4 \cdot 4} \approx \frac{5}{5 \cdot 5 \cdot 5}$

$\sqrt[3]{64}$                        $\sqrt[3]{125}$

4.  $(\underline{2.3} \times 10^{\textcircled{-3}})^{-3+10} (\underline{1.5} \times 10^{\textcircled{10}}) = 3.45 \times 10^7$

5.  $(\underline{7.8} \times 10^{\textcircled{7}}) \textcircled{\div} (\underline{3.9} \times 10^{\textcircled{19}}) \quad 7-19$

$\underline{2} \times 10^{-12}$

Ex. 1: Simplify:  $5\sqrt{28} = 5\sqrt{\textcircled{2 \cdot 2} \cdot 7}$

$\begin{matrix} \uparrow \\ 4 \end{matrix} \textcircled{7}$

$\begin{matrix} \uparrow \\ 2 \end{matrix} \textcircled{2}$

$5 \cdot 2\sqrt{7}$

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

Remember from 6-2:

3 cars	3 hundred	3x
<u>+ 5 cars</u>	<u>+ 5 hundred</u>	<u>+ 5y</u>

$$3x + 5y - 2x = 1x + 5y$$

$$2(3x) - 5y - 4(7x + 8y) =$$

$$6x - 5y - 28x - 32y =$$

$$-22x - 37y$$

\* Rules for Adding and Subtracting Roots:

- ① Simplify the  $\sqrt{\quad}$  if possible.
- ② Find the terms that have the same  $\sqrt{\quad}$
- ③ Add/Subtract Front #'s & keep the  $\sqrt{\quad}$
- ④ If the  $\sqrt{\quad}$  don't match, just leave it on the end

Simplify the expression.

Ex. 2:  $5\sqrt{11} - 8\sqrt{11} + 4\sqrt{22}$

$-3\sqrt{11} + 4\sqrt{22}$

Ex. 3:  $6\sqrt{12} + \sqrt{75}$

$6 \cdot 2\sqrt{3}$

$12\sqrt{3} + 5\sqrt{3}$

$17\sqrt{3}$

Ex. 4:  $4\sqrt{48} - 5\sqrt{45} + 4\sqrt{12}$

$4 \cdot 2 \cdot 2\sqrt{3}$

$4 \cdot 3\sqrt{5}$

$4 \cdot 2\sqrt{3}$

$16\sqrt{3} - 15\sqrt{5} + 8\sqrt{3} = 24\sqrt{3} - 15\sqrt{5}$

$16\sqrt{3} - 15\sqrt{5} + 8\sqrt{3} = 24\sqrt{3} - 15\sqrt{5}$

