

Warm Up Questions

1. Write the following as a mixed radical $\sqrt{300}$

2. Write the following as an entire radical

$$3\sqrt{10}$$

3. Write the following in order of least to greatest.

$$4\sqrt{6}, 2\sqrt{8}, -3\sqrt{7}, 9\sqrt{2}, 10\sqrt{2}$$

1. Write the following as a mixed radical $\sqrt{300}$

$$\sqrt{2 \times 2 \times 3 \times 5 \times 5}$$

$$2 \times 5 \sqrt{3}$$

$$= 10 \sqrt{3}$$

2. Write the following as an entire radical

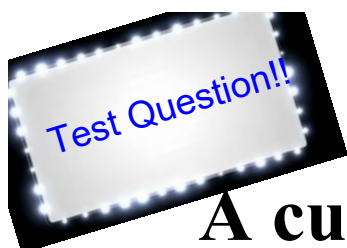
$$3\sqrt{10} \times 3 \times 3$$

$$= \sqrt{90}$$

3. Write the following in order of least to greatest.

$$\begin{aligned}4\sqrt{6} &\longrightarrow \sqrt{6 \times 4 \times 4} = \sqrt{96} \\2\sqrt{8} &\longrightarrow \sqrt{8 \times 2 \times 2} = \sqrt{32} \\-3\sqrt{7} &\longrightarrow \sqrt{7 \times 3 \times 3} = -\sqrt{63} \\9\sqrt{2} &\longrightarrow \sqrt{2 \times 9 \times 9} = \sqrt{162} \\10\sqrt{2} &\longrightarrow \sqrt{2 \times 10 \times 10} = \sqrt{200}\end{aligned}$$

$$= -3\sqrt{7}, 2\sqrt{8}, 4\sqrt{6}, 9\sqrt{2}, 10\sqrt{2}$$



A cube has a **volume** of 875 cm^3 .
Write the edge length of the cube
as a radical in simplest form.

$$\rightarrow \sqrt[3]{875}$$

$$= \sqrt[3]{5 \times 5 \times 5 \times 7}$$

$$= 5\sqrt[3]{7}$$

Test Question

A cube has a **Surface Area** of 648 cm^2 . Write the edge length of the cube as a radical in simplest form.

$$\longrightarrow 648 / 6 = 108 \text{ cm}^2$$

$$\longrightarrow \sqrt{108} = \sqrt{2 \times 2 \times 3 \times 3 \times 3}$$

$$= \sqrt{2 \times 2 \times 3 \times 3 \times 3}$$

$$= 2 \times 3 \sqrt{3}$$

$$= 6\sqrt{3}$$