

Simplifying Exponents & Radicals Interactive Worksheet

<p>1. Write each of the following in radical form:</p> <p>a. $3^{\frac{1}{2}}$ b. $(-3)^{\frac{2}{3}}$ c. $-(5)^{\frac{5}{3}}$</p> <p>$\sqrt{\square}$ $\sqrt{\square}$ $\sqrt{\square}$</p>	$\sqrt[d]{x^n} = x^{\frac{n}{d}}$
<p>2. Write each of the following in exponential form:</p> <p>a. $\sqrt{15}$ b. $\sqrt[5]{2}$ c. $\sqrt[4]{6^3}$</p> <p>$\sqrt{\square - \square}$ $\sqrt[5]{\square - \square}$ $\sqrt[4]{\square - \square}$</p>	$x^m \cdot x^n = x^{m+n}$
<p>3. Write as a single positive power and then evaluate:</p> <p>a. $(-2)^3 \times (-2)^4$ b. $3^8 \div 3^4$ c. $(2^3)^2$</p> <p>$= \square \square \square \square$ $= \square \square \square \square$ $= \square \square \square \square$</p> <p>$= \square \square$ $= \square$ $= \square$</p>	$\frac{x^m}{x^n} = x^m \div x^n = x^1$ $(x^m)^n = x^{m \cdot n}$
<p>d. $(-2)^5 \div (-2)^3 - (-2)^2$ e. $\frac{(3^2)^2 \times 3^{-2}}{2 + 2^0}$</p> <p>$= \square \square \square \square \square \square \square \square \square$ $= \square \square \square \square \square \square \square \square \square$</p> <p>$= \square \square \square \square \square \square$ $= \square \square \square \square$</p> <p>$= \square \square \square \square$ $= \square \square \square \square$</p> <p>$= \square \square \square \square$ $= \square \square \square \square$</p>	$x^0 = 1$

4. Simplify

$$4\sqrt{98} = 4\sqrt{\square} \times \sqrt{\square} = 4 \cdot \square \sqrt{\square} = \square \sqrt{\square}$$

$$x^{-m} = \frac{1}{x^m} = \left(\frac{1}{x}\right)^m$$