

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 style="text-align: center;"> $\sqrt{\quad}$ $\sqrt{\quad}$ $\sqrt{\quad}$ </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 style="text-align: center;"> \square^{\square} \square^{\square} \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> $= \square^{\square} \square^{\square} \square^{\square} \square^{\square}$ $= \square^{\square} \square^{\square} \square^{\square} \square^{\square}$ $= \square^{\square} \square^{\square} \square^{\square} \square^{\square}$ $= \square^{\square}$ $= \square^{\square}$ $= \square^{\square}$ $= \square$ $= \square$ $= \square$ </p>	$\frac{x^m}{x^n} = x^m \div x^n = x^{\quad}$
<p>d. $(-2)^5 \div (-2)^3 - (-2)^2$ e. $\frac{(3^2)^2 \times 3^{-2}}{2 + 2^0}$</p> <p> $= \square^{\square} \square^{\square} \square^{\square} \square^{\square} \square^{\square} \square^{\square}$ $= \frac{\square^{\square} \square^{\square} \square^{\square} \square^{\square} \square^{\square} \square^{\square}}{\square^{\square} \square^{\square}}$ $= \square^{\square} \square^{\square} \square^{\square} \square^{\square}$ $= \frac{\square^{\square}}{\square^{\square}}$ $= \square^{\square} \square^{\square}$ $= \frac{\square^{\square}}{\square^{\square}}$ $= \square$ $= \square$ </p>	$x^0 = 1$

4. Simplify

$$4\sqrt{98} = 4\sqrt{\quad} \times \sqrt{\quad} = 4 \cdot \boxed{\quad}\sqrt{\quad} = \boxed{\quad}\sqrt{\quad}$$

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