

Exponents Review Worksheet / Mastery

Simplify:

1.  $x^{\frac{1}{2}} \cdot x^{\frac{3}{5}}$

2.  $x^{\frac{2}{3}} \cdot \sqrt[5]{x^3}$

3.  $\sqrt{x} \cdot \sqrt[3]{x^2}$

4.  $\frac{\sqrt{x}}{\sqrt[3]{x^2}}$

5.  $\frac{\sqrt[3]{x^2}}{x^{\frac{1}{7}}}$

Evaluate for the given x. Simplify completely when possible:

6.  $x^{\frac{1}{2}}$ ;  $x = 8$

7.  $x^{\frac{2}{3}}$ ;  $x = 9$

8.  $x^{\frac{4}{5}}$ ;  $x = 4$

For the following put over a common denominator and simplify:

9.  $\frac{\sqrt{x}}{\sqrt[3]{x^4}} + x$

10.  $\frac{\sqrt[3]{x^2}}{x} + \frac{x^2}{\sqrt{x}}$

11.  $\frac{3x^3}{\sqrt[3]{x^4}} + \frac{3x}{x^{\frac{3}{2}}}$

12.  $\frac{\sqrt[3]{x^2}}{x} + \frac{x^2}{\sqrt{x}} + \frac{1}{x^{\frac{1}{5}}}$

13.  $\frac{\sqrt[3]{x^2}}{x^{\frac{3}{4}}} + \frac{x^2}{\sqrt{x}} + \frac{2x}{x^{\frac{1}{5}}}$