

**Classwork 4**  
Intermediate Algebra MTH 35  
**Topic: Exponents**

Name: \_\_\_\_\_

Using the notation  $\sqrt[n]{x^m} = x^{m/n}$ , simplify the following expressions. Write your answers with positive exponents.

1.  $\frac{1}{\sqrt[5]{x^{-2}}}$  ANSWER \_\_\_\_\_

2.  $(\sqrt{xy})^{-3}$  ANSWER \_\_\_\_\_

3.  $\sqrt{x}x^3x^4$  ANSWER \_\_\_\_\_

4.  $\sqrt{xy}x^3y^3$  ANSWER \_\_\_\_\_

5.  $yz\sqrt{y^3}(\sqrt{z})^4$  ANSWER \_\_\_\_\_

6.  $\frac{\sqrt{x^3}}{\sqrt[3]{x^2}}$  ANSWER \_\_\_\_\_

7.  $\frac{\sqrt[4]{x^5}}{x^2(\sqrt{x})^7}$  ANSWER \_\_\_\_\_

8.  $\frac{\sqrt[3]{x^2y^3}}{\sqrt{y^2x^5}}$  ANSWER \_\_\_\_\_

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

ANSWER \_\_\_\_\_

10.  $\frac{\sqrt{x^{-1}x^5}}{\sqrt{x^2x^{-3}}}$

ANSWER \_\_\_\_\_

11.  $\frac{\sqrt[3]{x^2}\sqrt[5]{z^2}}{y^2x^4}\frac{\sqrt{y^3x}}{\sqrt[3]{z^4x^2y}}$

ANSWER \_\_\_\_\_

12.  $\sqrt[3]{(x^2)^2}x^3$

ANSWER \_\_\_\_\_

13.  $(y^3)^3(\sqrt{y^2})^3$

ANSWER \_\_\_\_\_

14.  $\sqrt{(xy)^2}\sqrt{x^3y^2}$

ANSWER \_\_\_\_\_

15.  $\frac{\sqrt[3]{(xyz)^4}}{xyz}$

ANSWER \_\_\_\_\_

16.  $\frac{\sqrt{x^{-1}y^2}}{\sqrt[3]{y^{-2}x^3}}$

ANSWER \_\_\_\_\_