

Classwork 4Intermediate Algebra MTH 35
Topic: Fractional 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. $\frac{\sqrt[3]{x^2}y^3}{\sqrt{y^2}x^5}$ 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. $\sqrt[3]{(x^2)^2x^3}$

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 _____