

Name: _____

Date: _____

Learning Goal 0.2**Expectations for algebra from previous years.****More Questions**

1. Simplify the following expressions.

a. $(n^4)^{-1/3} \times 2n^{-1}$

b. $\left(\frac{x^2y}{y^{-2}}\right)^{-2}$

c. $\frac{(32pm^{-1})^{-1/4} \times 2m^{-1}p^3}{2pq^2}$

d. $\left(\frac{x^{1/2}y^{-2}}{x^2y^{1/2}}\right)^4$

e. $\frac{(2x^{-3}z^2)^3}{x^3y^4z^2 \times x^{-4}z^3}$

f. $(8x^{n+2}y^{n+1})^{2/n}$

2. Rationalize and simplify the following expressions.

a. $\frac{\sqrt{2}}{\sqrt{12}} - \frac{5\sqrt{3}}{\sqrt{8}}$

b. $\frac{2\sqrt{x} + 3\sqrt{y}}{\sqrt{x} - \sqrt{y}}$

c. $\frac{2\sqrt{2}}{\sqrt{16} - \sqrt{12}}$

d. $\frac{2\sqrt{2}}{2\sqrt{3} - \sqrt{8}}$

e. $\frac{3}{\sqrt{5} - \sqrt{2}}$

f. $\frac{2\sqrt{3} - \sqrt{2}}{5\sqrt{2} + \sqrt{3}}$

3. Rationalize the numerator.

a. $\frac{\sqrt{5} - 1}{4}$

b. $\frac{2 - 3\sqrt{2}}{2}$

c. $\frac{\sqrt{5} + 2}{2\sqrt{5} - 1}$

d. $\frac{\sqrt{a} - 2}{a - 4}$

e. $\frac{\sqrt{x+4} - 2}{x}$

f. $\frac{\sqrt{x+h} - x}{x}$