

Name: _____
Date: _____
Class: _____

Algebra
Unit 9
HW 9-2

1) Simplify: $\sqrt{27}$

$$\begin{array}{l} \sqrt{9} \sqrt{3} \\ \boxed{3\sqrt{3}} \end{array}$$

2) Simplify: $5\sqrt{24}$

$$\begin{array}{l} 5\sqrt{4} \sqrt{6} \\ 5 \cdot 2 \sqrt{6} \\ \boxed{10\sqrt{6}} \end{array}$$

3) Simplify: $\frac{1}{4}\sqrt{48x^3}$

$$\begin{array}{l} \frac{1}{4} \sqrt{16} \sqrt{3} \sqrt{x^2} \sqrt{x} \\ \frac{1}{4} (4)(x) \sqrt{3x} \\ x\sqrt{3x} \end{array}$$

4) Simplify: $\sqrt{243xy^2}$

$$\begin{array}{l} \sqrt{81} \sqrt{y^2} \sqrt{3} \sqrt{x} \\ \boxed{9y\sqrt{3x}} \end{array}$$

5) Simplify: $\sqrt{12} - \sqrt{48} + \sqrt{3}$

$$\begin{array}{l} \sqrt{4} \sqrt{3} - \sqrt{16} \sqrt{3} + \sqrt{3} \\ 2\sqrt{3} - 4\sqrt{3} + \sqrt{3} \\ \boxed{-1\sqrt{3}} \end{array}$$

6) Simplify: $\sqrt{3a^2} + \sqrt{12a^2}$

$$\sqrt{a^2}\sqrt{3} + \sqrt{4}\sqrt{a^2}\sqrt{3}$$

$$a\sqrt{3} + 2a\sqrt{3}$$

$$\boxed{3a\sqrt{3}}$$

7) Simplify: $(\sqrt{3a^2})(\sqrt{12a^2})$

$$\sqrt{36a^4}$$

$$\boxed{6a^2}$$

8) Simplify: $\sqrt{8x^3y^2z}$

$$\sqrt{4}\sqrt{x^2}\sqrt{y^2}\sqrt{2}\sqrt{x}\sqrt{z}$$

$$2xy\sqrt{2xz}$$

9) Simplify: $\sqrt{8575}$

$$\sqrt{25}\sqrt{343}$$

$$\sqrt{25}\sqrt{49}\sqrt{7}$$

$$5 \cdot 7 \sqrt{7}$$

$$35\sqrt{7}$$