

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

# Simplifying Radical Expressions

Simplify the Perfect Squares.

1  $\sqrt{81p^{64}}$

\_\_\_\_\_

2  $\sqrt{m^4}$

\_\_\_\_\_

3  $\sqrt{a^6b^{10}}$

\_\_\_\_\_

4  $\sqrt{9a^2}$

\_\_\_\_\_

5  $\sqrt{121x^{16}y^6}$

\_\_\_\_\_

6  $\sqrt{w^{12}}$

\_\_\_\_\_

Simplify the Non-Perfect Squares.

7  $\sqrt[3]{56x^5y}$

\_\_\_\_\_

8  $\sqrt[3]{80x^5y^7}$

\_\_\_\_\_

9  $\sqrt[4]{81a^4b^5}$

\_\_\_\_\_

10  $\sqrt[4]{64x^5y^8}$

\_\_\_\_\_

11  $\sqrt[3]{\frac{64x^7}{216y^6}}$

\_\_\_\_\_

12  $\sqrt[3]{48y^7}$

\_\_\_\_\_

Simplify by Rationalizing the Denominators.

13  $\sqrt[3]{\frac{1}{x}}$

\_\_\_\_\_

14  $\frac{5}{\sqrt{18}}$

\_\_\_\_\_

15  $\frac{9\sqrt[5]{160x^8y^{11}}}{3\sqrt[5]{5xy^2}}$

\_\_\_\_\_

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

# Simplifying Radical Expressions

## Answers

1  $\sqrt{81p^{64}}$

$\frac{9p^8}{\quad}$

2  $\sqrt{m^4}$

$\frac{m^2}{\quad}$

3  $\sqrt{a^6b^{10}}$

$\frac{a^3b^5}{\quad}$

4  $\sqrt{9a^2}$

$\frac{3a}{\quad}$

5  $\sqrt{121x^{16}y^6}$

$\frac{11x^7y^3}{\quad}$

6  $\sqrt{w^{12}}$

$\frac{w^6}{\quad}$

7  $\sqrt[3]{56x^5y}$

$\frac{2x^3\sqrt{7x^2y}}{\quad}$

8  $\sqrt[3]{80x^5y^7}$

$\frac{(y^2)^3 \cdot y}{\quad}$

9  $\sqrt[4]{81a^4b^5}$

$\frac{3ab^4\sqrt{b}}{\quad}$

10  $\sqrt[4]{64x^5y^8}$

$\frac{2xy^2\sqrt[4]{4x}}{\quad}$

11  $\sqrt[3]{\frac{64x^7}{216y^6}}$

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

12  $\sqrt[3]{48y^7}$

$\frac{2y^2\sqrt[3]{6y}}{\quad}$

13  $\sqrt[3]{\frac{1}{x}}$

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

14  $\frac{5}{\sqrt{18}}$

$\frac{5\sqrt{2}}{6}$

15  $\frac{9\sqrt[5]{160x^8y^{11}}}{3\sqrt[5]{5xy^2}}$

$\frac{6xy\sqrt[5]{x^2y^4}}{\quad}$