

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

Algebra II

Rational Exponents and Radical Functions

Review for Chapter 5

1.

$$y = \sqrt{x - 2} + 1$$

- a. Graph
- b. Domain: \_\_\_\_\_
- c. Range: \_\_\_\_\_

2.

$$y = -2\sqrt{x + 3} - 1$$

- a. Graph
- b. Domain: \_\_\_\_\_
- c. Range: \_\_\_\_\_

Simplify

a.  $\sqrt{16y^4}$

c.  $\sqrt[5]{243a^{20}b^{25}}$

b.  $\pm\sqrt{(x^2 - 6)^8}$

d.  $-\sqrt{-16x^4y^8}$

a.  $\sqrt{32x^8}$

b.  $\sqrt[4]{16a^{24}b^{13}}$

c.  $\sqrt[3]{x^7y^9}$

Rationalize

a.  $\sqrt{\frac{a^6}{b^3}}$

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

Simplify

a.  $a^{\frac{1}{5}} =$

c.  $\sqrt[7]{b^3} =$

b.  $a^{\frac{2}{7}} \cdot a^{\frac{4}{7}}$

d.  $p^{\frac{1}{4}} \cdot p^{\frac{9}{4}}$

Solve

1.  $3 + \sqrt{5x - 10} \leq 8$

2.  $2(6x - 3)^{\frac{1}{3}} - 4 = 0$