

Name: _____ Date: _____ Class: _____

Unit 3- Mid-Unit Test

1. Find the value of each variable that makes the equation true.

$$8^a = 1$$

2. Find the value of each variable that makes the equation true.

$$9^4 \cdot 9^{-6} = 9^{-b}$$

3. Write a solution to the equation $x^2 = 5$ two ways:

a. using exponents

b. using radicals

4. Write $\sqrt[3]{78}$ using exponents.

5. Write $2^{\frac{5}{3}}$ using radical notation.

6. Write $\sqrt[4]{11^5}$ without radicals.

7. Find the solution(s) to each equation or explain why there is no solution.

$$\sqrt{x + 2} = 5$$

8. Find the solution(s) to each equation or explain why there is no solution.

$$\sqrt[3]{y - 8} = -1$$

9. Solve the equation:

$$\sqrt{n + 2} - 4 = 0$$

10. Solve the equation

$$-4 = \sqrt[3]{m + 2}$$