Assessment Title: Rational Equations True/False Exploration Unit 1: Extending the Number System

Learning Targets:

- I can use properties of integer exponents and apply those to rational exponents.
- I can convert between exponential and radical form.

Directions: Work with your partner to complete this task. For each problem below, determine whether the given equation is TRUE or FALSE and write your choice in the blank provided. Explain your answer.

1. _____
$$x^{\frac{5}{6}} = \sqrt[5]{x^6}$$

Explain:

2. _____
$$(16)^{\frac{1}{4}} = 4$$

Explain:

3. _____
$$a^{\frac{2}{7}} * a^{\frac{4}{7}} = a^{\frac{8}{49}}$$

Explain:

4. _____
$$b^{\frac{-5}{6}} = b^{\frac{6}{5}}$$

Explain:

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5. _____
$$(a^2 + b^2)^{\frac{1}{2}} = a + b^2$$

Explain:

6. _____
$$(27x^6)^{\frac{-2}{3}} = -9x^4$$

Explain:

7. _____
$$\sqrt{25x^{16}} = 5x^4$$

Explain:

8. _____
$$7^{\frac{1}{2}} * 7^{\frac{1}{2}} = 7$$

Explain:

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9. _____
$$8a^{\frac{-1}{3}} = \frac{1}{2\sqrt[3]{a}}$$

Explain:

10. _____
$$\frac{1}{4}(4p)^{\frac{1}{2}} = p^{\frac{1}{2}}$$

Explain: