Activity 4.1: Simplifying Radicals & Exponents

A

Name: _____ Partner's name: _____ Date: _____

Directions: Simplify each expression. Write rational exponents in simplest form and rationalize denominators.
Work alone, then compare after each problem. If answers differ, find the mistake together.

1

Simplify $\sqrt{72}$.

Answer: _____ Match? ☐ Yes ☐ No

2

Evaluate $27^{2/3}$.

Answer: _____ Match? ☐ Yes ☐ No

3

Simplify $\sqrt{6} \cdot \sqrt{15}$.

Answer: _____ Match? ☐ Yes ☐ No

4

Simplify $3\sqrt{5} + 2\sqrt{5}$.

Answer: _____ Match? ☐ Yes ☐ No

5

Rationalize: $\dfrac{6}{\sqrt{3}}$

Answer: _____ Match? ☐ Yes ☐ No

6

Simplify: $\dfrac{2}{3 - \sqrt{5}}$

Answer: _____ Match? ☐ Yes ☐ No

7

Simplify $x^{1/2} \cdot x$.

Answer: _____ Match? ☐ Yes ☐ No

8

Write $\sqrt[3]{x^4}$ with a rational exponent.

Answer: _____ Match? ☐ Yes ☐ No

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B

Name: _____ Partner's name: _____ Date: _____

Directions: Simplify each expression. Write rational exponents in simplest form and rationalize denominators.
Work alone, then compare after each problem. If answers differ, find the mistake together.

1

Simplify $3\sqrt{8}$.

Answer: _____ Match? ☐ Yes ☐ No

2

Evaluate $81^{1/2}$.

Answer: _____ Match? ☐ Yes ☐ No

3

Simplify $\sqrt{5} \cdot \sqrt{18}$.

Answer: _____ Match? ☐ Yes ☐ No

4

Simplify $\sqrt{45} + \sqrt{20}$.

Answer: _____ Match? ☐ Yes ☐ No

5

Rationalize: $\dfrac{12}{\sqrt{12}}$

Answer: _____ Match? ☐ Yes ☐ No

6

Simplify: $\dfrac{4}{6 - 2\sqrt{5}}$

Answer: _____ Match? ☐ Yes ☐ No

7

Simplify: $\dfrac{x^3}{x^{3/2}}$

Answer: _____ Match? ☐ Yes ☐ No

8

Write $(\sqrt[3]{x})^4$ with a rational exponent.

Answer: _____ Match? ☐ Yes ☐ No