

Radicals Lesson 3


Adding and Subtracting Radical Expressions

Activity Answer Key

Write the following radical expressions. When you hear the word times, only use a multiplication sign if specifically indicated. Also, number each problem. [There is a braille answer document "L3-Radicals-Activity-Answers.brf" that can be used to independently check answers.]

1. five square root of four

$$5\sqrt{4}$$

Answer: 

2. five cube root of eight

$$5\sqrt[3]{8}$$

Answer: 

3. Six times the square root of two end root minus three times the square root of two end root equals open parenthesis six minus three close parenthesis times the square root of two end root equals three times the square root of two end root.

$$6\sqrt{2} - 3\sqrt{2} = (6 - 3)\sqrt{2} = 3\sqrt{2}$$

Answer:

The figure consists of 12 diagrams arranged in two rows of six. Each diagram shows a 4x4 grid of dots, with some dots being black and others white. The pattern of black dots evolves from left to right across the sequence.

- Diagram 1 (top row, left): Black dots at (1,1), (1,2), (2,1), (2,2), (2,3), (3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4).
- Diagram 2 (top row, second from left): Black dots at (1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4), (3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4).
- Diagram 3 (top row, third from left): Black dots at (1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4), (3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4).
- Diagram 4 (top row, fourth from left): Black dots at (1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4), (3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4).
- Diagram 5 (top row, fifth from left): Black dots at (1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4), (3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4).
- Diagram 6 (top row, right): Black dots at (1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4), (3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4).
- Diagram 7 (bottom row, left): Black dots at (1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4), (3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4).
- Diagram 8 (bottom row, second from left): Black dots at (1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4), (3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4).
- Diagram 9 (bottom row, third from left): Black dots at (1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4), (3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4).
- Diagram 10 (bottom row, fourth from left): Black dots at (1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4), (3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4).
- Diagram 11 (bottom row, fifth from left): Black dots at (1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4), (3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4).
- Diagram 12 (bottom row, right): Black dots at (1,1), (1,2), (1,3), (1,4), (2,1), (2,2), (2,3), (2,4), (3,1), (3,2), (3,3), (3,4), (4,1), (4,2), (4,3), (4,4).

4. Four cube root of seven end root minus the square root of two end root plus two cube root of seven end root plus the square root of two end root equals six cube root of seven end root.

$$4\sqrt[3]{7} - \sqrt{2} + 2\sqrt[3]{7} + \sqrt{2} = 6\sqrt[3]{7}$$

Answer:

$$3\sqrt[5]{2y} - 4\sqrt[5]{2y} + 6\sqrt[5]{2y} = 5\sqrt[5]{2y}$$

5. Three fifth root of two y end root minus four fifth root of two y end root plus six fifth root of two y end root equals five fifth root of two y end root.

$$3\sqrt[5]{2y} - 4\sqrt[5]{2y} + 6\sqrt[5]{2y} = 5\sqrt[5]{2y}$$

Answer:

$$4\sqrt{2z+1} + \sqrt{2z+1} = 5\sqrt{2z+1}$$

6. Four square root of two z plus one end root plus square root of two z plus one end root equals five square root of two z plus one end root.

$$4\sqrt{2z+1} + \sqrt{2z+1} = 5\sqrt{2z+1}$$

Answer:

$$4\sqrt{2z+1} + \sqrt{2z+1} = 5\sqrt{2z+1}$$