Find Slope from Triangle Sides: Rise Over Run

Original tasks 1, 2, 3, 4 / complete keys

Task 1

A right triangle has a vertical leg of 6 units and a horizontal leg of 8 units. It rises from left to right. Compute the slope.

Answer: 3/4

Reason: Rise = 6, run = 8, so slope = 6/8. Divide both by 2 to get 3/4. The triangle rises, so the slope is positive.

Check: Multiply 3/4 by 8 to get 6, which matches the rise.

Task 2

A right triangle has a vertical leg of 10 meters and a horizontal leg of 4 meters. It falls from left to right. Compute the slope.

Answer: -5/2

Reason: Rise is downward, so use -10. Run = 4. Slope = -10/4 = -5/2. The negative sign shows the downward direction.

Check: Multiply -5/2 by 4 to get -10, matching the signed rise.

Task 3

A right triangle has a vertical leg of 15 inches and a horizontal leg of 20 inches. It rises from left to right. Compute the slope and write it as a decimal.

Answer: 3/4 or 0.75

Reason: Slope = 15/20. Divide both by 5 to get 3/4. Since 3 divided by 4 is 0.75, the decimal form is 0.75.

Check: Multiply 0.75 by 20 to get 15, matching the rise.

Task 4

A right triangle has a vertical leg of 7 centimeters and a horizontal leg of 14 centimeters. It rises from left to right. Compute the slope.

Answer: 1/2

Reason: Slope = 7/14. Divide both by 7 to get 1/2. The triangle rises, so the slope is positive.

Check: Multiply 1/2 by 14 to get 7, matching the rise.

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Source rubric / reflection

- [ ] Correctly identifies the vertical leg as rise and the horizontal leg as run.
- [ ] Substitutes the correct lengths into rise/run.
- [ ] Simplifies the fraction to lowest terms.
- [ ] Assigns the correct sign when direction is given.
- [ ] States the meaning of the slope in units up or down per unit right.
- [ ] Shows a check that slope times run equals rise.

Reflection: What did you check, what did you change, and what will you try next?