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Solve Equations

1.B.2.b

Example

What is the value of n in the following equation?

$$5n = 27.45$$

- (A) $n = 5.49$ (C) $n = 22.45$
 (B) $n = 5.5$ (D) $n = 137.25$

Example

What is the value of r in the following equation?

$$r - 13.58 = 28.62$$

- (A) $r = 15.04$ (C) $r = 41.1$
 (B) $r = 15.14$ (D) $r = 42.2$

Review

- **Inverse operations** are operations that *undo* each other. Addition and subtraction are inverse operations, as are multiplication and division.
- Use inverse operations to solve equations. For example, in the equation $2 + z = 6$, subtract 2 from both sides of the equation to find the value of z .
- What is done to one side of an equation must also be done to the other side.

Thinking It Through

Solve —*Translate It* Write this equation in words to help you *see* the problem.

5 times a number is equal to 27.45

Use the inverse of multiplication, which is division, to find the solution. Divide both sides of the equation by 5.

$$5n \div 5 = 27.45 \div 5$$

$$n = 5.49$$

The correct answer is 5.49, *choice A*.

Thinking It Through

Solve —*Translate It* Write this equation in words to help you *see* the problem.

Some number minus 13.58 = 28.62

Use the inverse of subtraction, which is addition, to find the solution. Add 13.58 to both sides of the equation.

$$r - 13.58 + 13.58 = 28.62 + 13.58$$

$$r = 42.2, \text{ choice D.}$$

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Directions: Write the answer to each Part on the lines provided.

- 1** Willie cycled 77.85 miles in a bicycle tour for charity. It took Willie 9 hours to complete the tour. He traveled at the same speed throughout.

Part A

Write and solve an equation to find how many miles per hour Willie cycled.

Part B

Use what you know about solving equations to explain how you found your answer. Use words, numbers, and/or symbols in your explanation.



You can use estimation to make sure your answer is reasonable.