

Solving One-Step Equations with Inverse Operations

Grade 6 math · Test · Standards: 6.EE.B.5, 6.EE.B.6, 6.EE.B.7

Name: _____ Date: _____ Class: _____

This test has 9 questions worth 20 points and takes about 45 minutes. Show each step, including the operation used on both sides. Calculators are not allowed.

Standards: 6.EE.B.5, 6.EE.B.6, 6.EE.B.7 · **Level:** Grade 6

Time: 45 minutes · 9 questions · Total: 20 points · Calculator: as allowed by your teacher

Question 1 Testing solutions (2 points)

Is 9 a solution of each equation? Show the substitution.

- a. $x + 6 = 15$ (1 point)
- b. $3x = 18$ (1 point)

Question 2 Whole-number equations (2 points)

Solve each equation.

- a. $x - 8 = 14$ (1 point)
- b. $7p = 63$ (1 point)

Question 3 Division and decimals (2 points)

Solve each equation.

- a. $\frac{y}{6} = 5$ (1 point)
- b. $z + 4.2 = 9$ (1 point)

Question 4 Fractions and decimals (2 points)

Solve each equation.

- a. $x + \frac{2}{5} = 1$ (1 point)
- b. $0.4m = 6$ (1 point)

Question 5 Tape diagram (3 points)

The tape shows eight equal parts with a total of 56.

56

x	x	x	x	x	x	x	x
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Eight equal parts with a total of 56.

- Write an equation for the tape. (1 point)
- Solve the equation. (1 point)
- Check the solution by substitution. (1 point)

Question 6 Backpack purchase (3 points)

Ravi bought a \$19 backpack and has \$23 left. Let m be the money he had at first.

- Write an equation. (1 point)
- Solve it. (1 point)
- Check your answer in the story. (1 point)

Question 7 Find the error (2 points)

Elena solved $\frac{n}{5} = 8$ and wrote $n = 8 \div 5 = 1.6$.

- Explain her mistake. (1 point)
- Find the correct value of n and check it. (1 point)

Question 8 Pretzel stand (2 points)

At a fair, 5 pretzels cost \$12.50 in all. Each pretzel costs p dollars.

\$12.50

p	p	p	p	p
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Five pretzels cost \$12.50 in all.

- Write an equation. (1 point)
- Find the price of one pretzel. (1 point)

Question 9 Writing and solving (2 points)

Write an equation for the sentence, then solve it: a number increased by 12.5 is 30.