

Solving One-Step Equations with Inverse Operations

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

Name: _____ Date: _____ Class: _____

These 20 problems cover standards 6.EE.B.5, 6.EE.B.6 and 6.EE.B.7: deciding whether a value is a solution, solving equations of the form $x + p = q$ and $px = q$, and writing equations for situations.

Numbers grow from whole numbers to decimals and fractions. The final six are word problems; define the variable, write an equation, solve it and check in the story.

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

Problem 1 Testing values (easy)

Which of the values 4, 7 and 11 is a solution of $y - 3 = 8$?

Problem 2 Solve an addition equation (easy)

Solve $x + 8 = 21$.

Problem 3 Solve a subtraction equation (easy)

Solve $n - 5 = 12$.

Problem 4 Solve a multiplication equation (easy)

Solve $6k = 54$.

Problem 5 Solve a division equation (easy)

Solve $\frac{m}{4} = 7$.

Problem 6 Variable on the right (easy)

Solve $15 = a + 9$.

Problem 7 Decimal addition (medium)

Solve $x + 3.5 = 10$.

Problem 8 Decimal subtraction (medium)

Solve $y - 2.25 = 4$.

Problem 9 Decimal coefficient (medium)

Solve $1.5z = 9$.

Problem 10 Fraction addition (medium)

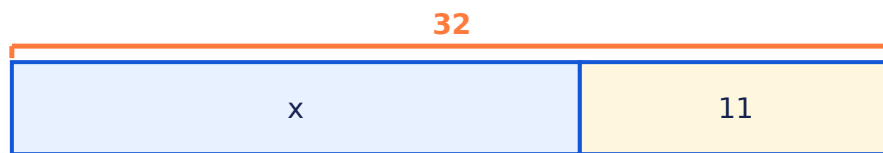
Solve $x + \frac{3}{4} = 2$.

Problem 11 Fraction coefficient (medium)

Solve $\frac{3}{5}x = 9$.

Problem 12 Tape diagram: parts and total (medium)

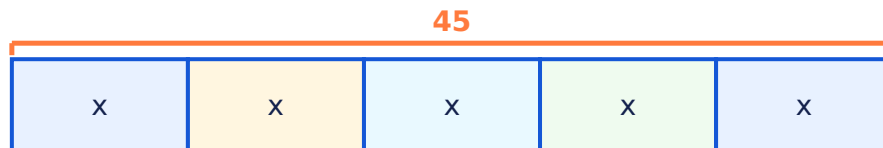
Write and solve an equation for the tape.



A tape for a total of 32.

Problem 13 Tape diagram: equal parts (medium)

Write and solve an equation for the tape.



Five equal parts make a total of 45.

Problem 14 Writing equations (medium)

Write and solve an equation for each sentence.

- a. Four times a number is 36.
- b. A number decreased by 7 is 20.

Problem 15 Jersey purchase (medium)

Leo bought a \$27 jersey and has \$13 left. Write and solve an equation to find how much money m he had at first.



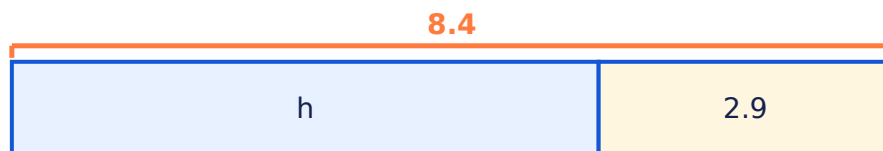
Money at the start (m) is split into \$27 spent and \$13 left.

Problem 16 Sticker teams (medium)

A robotics club shares 72 stickers equally among 8 teams. Write and solve an equation for the number of stickers s each team gets.

Problem 17 Hiking trail (hard)

A hiking trail is 8.4 miles long. After hiking h miles, 2.9 miles remain. Write and solve an equation.



The trail is 8.4 miles in all.

Problem 18 Ride tickets (hard)

At the county fair, each ride ticket costs \$1.25, and Ines spends \$7.50 on tickets. Write and solve an equation to find how many tickets t she bought.

Problem 19 Check a solution (hard)

Sam solved $x + 6 = 15$ and wrote $x = 21$. Check his answer by substitution, find his mistake, and give the correct solution.

Problem 20 Ribbon for a costume (hard)

A costume needs $2\frac{1}{6}$ yards of ribbon. Dev already has f yards and needs $\frac{5}{6}$ yard more. Write and solve an equation for f .