

Grade 6 · One-Step Equations · Worksheet

Common Core 6.EE.B.5, 6.EE.B.6, 6.EE.B.7 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

These 20 problems practice solving one-step equations of the forms $x + p = q$ and $px = q$ from Common Core 6.EE.B.5, 6.EE.B.6, and 6.EE.B.7. You test values by substitution, solve with whole numbers, decimals, and fractions, and write equations from sentences.

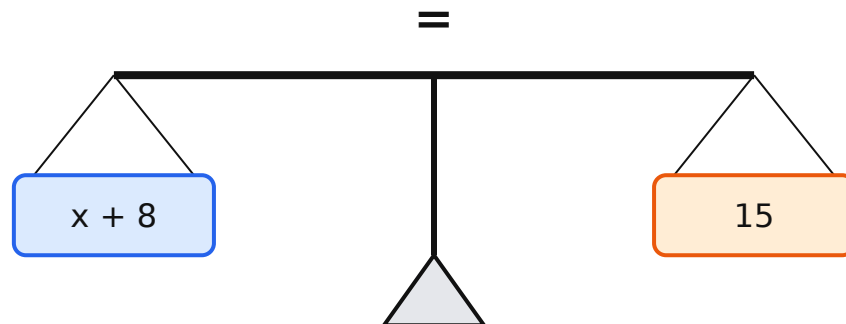
Problems 15 through 20 are word problems about money, caps, apples, and trips. Show the equation, the inverse operation, and a check for each.

Grade 6 Common Core: 6.EE.B.5 · 6.EE.B.6 · 6.EE.B.7

Problem 1: Is It a Solution

Decide whether the given value is a solution of the equation. Show the substitution.

- a. $x + 8 = 15$; $x = 7$
- b. $3x = 18$; $x = 5$
- c. $x + 2.5 = 6$; $x = 3.5$
- d. $4x = 10$; $x = 2.5$



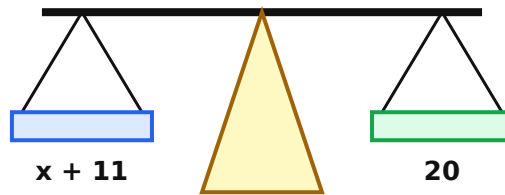
Test whether the value balances the scale.

Problem 2: Check the balance

Decide whether the given value is a solution of the equation. Show the substitution.

- a. $x + 11 = 20$; $x = 9$
- b. $5x = 35$; $x = 6$
- c. $x + 1.5 = 4$; $x = 2.5$

d. $2x = 1.5$; $x = 0.75$



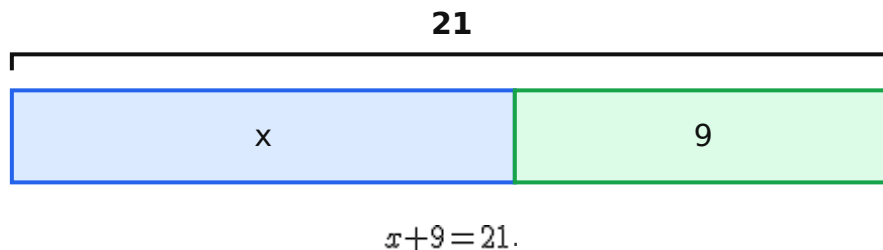
Does $x = 9$ balance the scale?

Part (a) as a balance scale.

Problem 3: Addition Equations

Solve each equation.

- a. $x + 9 = 21$
- b. $x + 14 = 30$
- c. $17 = x + 5$
- d. $x + 26 = 50$



Problem 4: Multiplication Equations

Solve each equation.

- a. $6x = 42$
- b. $9x = 72$
- c. $54 = 6x$
- d. $12x = 60$

Problem 5: Larger addition equations

Solve each equation.

- a. $x + 7 = 19$
- b. $x + 18 = 45$
- c. $31 = x + 12$

d. $x+35=100$

Problem 6: Larger multiplication equations

Solve each equation.

a. $8x=56$

b. $11x=99$

c. $72=9x$

d. $15x=90$

Problem 7: Addition with Decimals

Solve each equation.

a. $x+3.4=9.1$

b. $x+0.75=2.5$

c. $12.6=x+4.9$

d. $x+0.08=0.5$

Problem 8: Decimal sums

Solve each equation.

a. $x+6.3=10.1$

b. $x+0.45=1.2$

c. $9.4=x+2.7$

d. $x+0.15=1$

Problem 9: Multiplication with Decimals

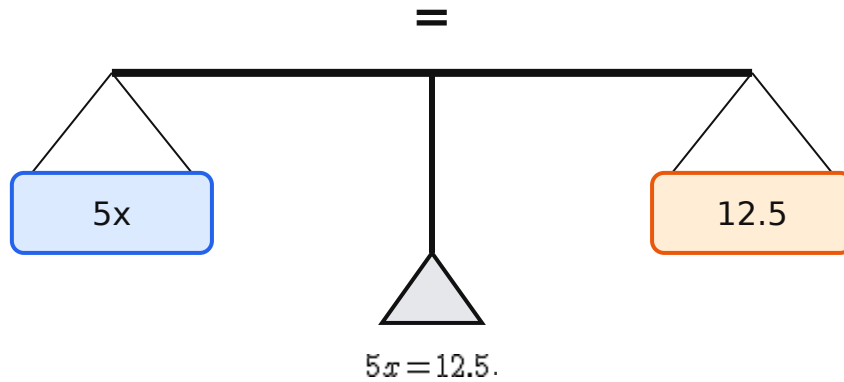
Solve each equation.

a. $5x=12.5$

b. $0.4x=3.2$

c. $1.5x=9$

d. $0.25x=6$



Problem 10: Decimal products

Solve each equation.

- a. $4x = 18.6$
- b. $0.3x = 2.4$
- c. $2.5x = 15$
- d. $0.6x = 0.9$

Problem 11: Equations with Fractions

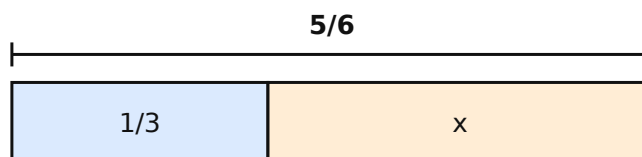
Solve each equation. Write each answer as a fraction.

- a. $x + \frac{1}{4} = \frac{7}{8}$
- b. $x + \frac{2}{5} = 1$
- c. $3x = \frac{3}{4}$
- d. $\frac{1}{2}x = \frac{3}{8}$

Problem 12: Fraction equations on a tape

Solve each equation. Write each answer as a fraction in simplest form. The tape diagram models part (a).

- a. $x + \frac{1}{3} = \frac{5}{6}$
- b. $x + \frac{3}{10} = \frac{4}{5}$
- c. $4x = \frac{2}{3}$
- d. $\frac{2}{3}x = \frac{4}{9}$



Each small part is $\frac{1}{6}$

The tape for part (a).

Problem 13: Writing Equations

Write an equation for each sentence, then solve it.

- a. 7 more than a number n is 25.
- b. 6 times a number n is 4.2.
- c. The sum of a number n and $\frac{3}{4}$ is 2.
- d. A number n times 8 equals 100.

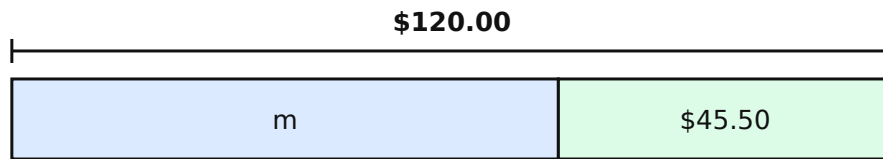
Problem 14: Sentences to equations

Write an equation for each sentence, then solve it.

- a. A number n increased by 9.5 is 14.
- b. 5 times a number n is 3.5.
- c. The sum of a number n and $\frac{3}{5}$ is 1.
- d. A number n multiplied by 0.4 equals 10.

Problem 15: Club donation

The robotics club had some money in its account. After a donation of \$45.50, the account held \$120.00. Write an equation using m for the original amount, and solve it.



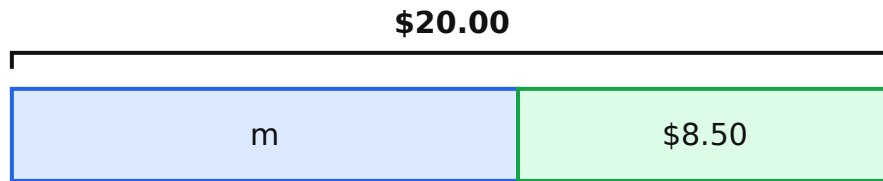
Original amount m , then the donation
Money in the account.

Problem 16: Team caps

Coach Diaz buys 12 team caps for \$102 in all. Every cap costs the same. Write an equation using c for the price of one cap, solve it, and check the answer.

Problem 17: School Store Savings

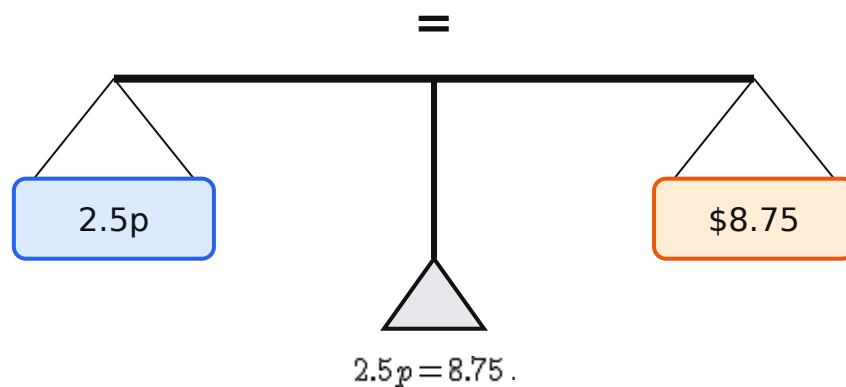
Priya had some money in her wallet. After she earned \$8.50 at the school store, she had \$20.00. Write an equation and find how much she had at first.



Priya's money.

Problem 18: Farmers Market Apples

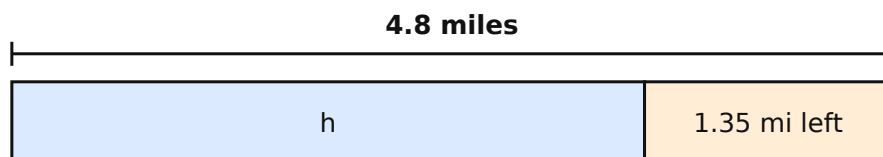
Diego pays \$8.75 for 2.5 pounds of apples. Write an equation using p for the price per pound, then solve it.



Problem 19: Trail hike

A trail is 4.8 miles long. Sofia has 1.35 miles left to hike.

- Write and solve an equation to find the miles h she has hiked so far.
- She hiked that distance in 1.5 hours at a steady speed s miles per hour. Write and solve an equation to find s .
- Check the answer to part (b) by substitution.

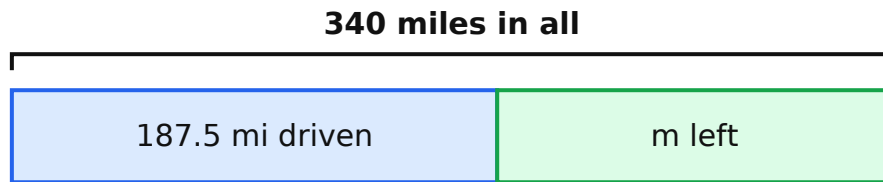


Miles hiked so far: h
Sofia's trail.

Problem 20: Road Trip

Liam's family plans a 340-mile road trip. After lunch they have driven 187.5 miles.

- Write and solve an equation to find the miles m they still have to drive.
- They finish the trip in 2.5 hours at a steady speed s miles per hour. Write and solve an equation to find s .
- Check your answer to part (b) by substitution.



Trip distance.