

Grade 7 · Two-Step Equations · Worksheet

Common Core 7.EE.B.3, 7.EE.B.4a · mathovore.fr

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

These twenty problems practice Common Core standards 7.EE.B.3 and 7.EE.B.4a. Solve equations of the form $px + q = r$ and $p(x + q) = r$ with whole numbers, negatives, decimals and fractions. The last six are word problems that ask you to write an equation first, solve it, and check that the answer makes sense. Work from easiest to hardest.

Grade 7 Common Core: 7.EE.B.3 · 7.EE.B.4a

Problem 1: Add, then multiply

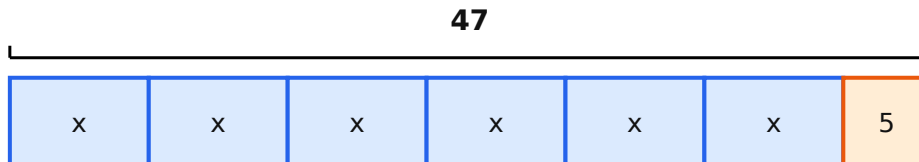
Solve $3x + 4 = 19$.



Three equal parts of size x and a part of size 4 make 19.

Problem 2: Six groups plus five

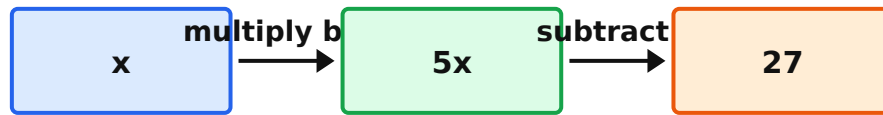
Solve $6x + 5 = 47$.



Six equal parts of size x and a part of size 5 make 47.

Problem 3: Subtract, then divide

Solve $5x - 8 = 27$.



The equation $5x - 8 = 27$ as two steps.

Problem 4: Divide, then subtract

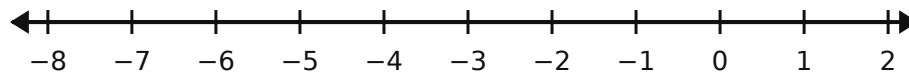
Solve $\frac{x}{5} - 2 = 6$.

Problem 5: A division step

Solve $\frac{x}{4} + 3 = 10$.

Problem 6: Below zero

Solve $3x + 14 = 2$. Then plot the solution on the number line.



Use this number line to plot the solution.

Problem 7: A negative solution

Solve $2x + 7 = 1$. Then plot the solution on a number line.

Problem 8: Two negatives

Solve $-5x - 7 = 18$.

Problem 9: A negative coefficient

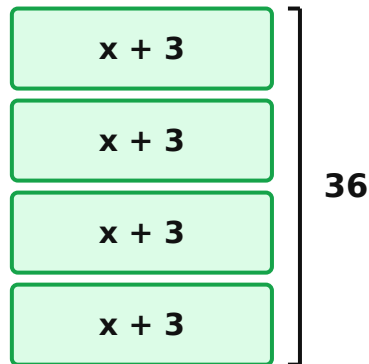
Solve $-3x + 5 = -10$.

Problem 10: Decimal coefficient

Solve $0.6x + 2.4 = 7.8$.

Problem 11: Parentheses

Solve $4(x+3)=36$ by dividing first. Then solve it again by distributing first, and compare.



Four equal groups of $x+3$ make 36.

Problem 12: Decimal in parentheses

Solve $5(x-2.5)=20$.

Problem 13: Fraction coefficient

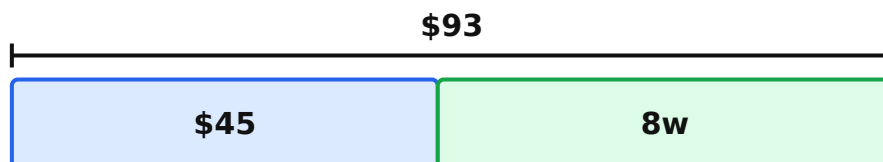
Solve $\frac{3}{4}x-2=7$.

Problem 14: Estimate, then solve

Solve $2.5x+1.5=11$. First estimate: decide whether x is a little more or a little less than 4, and explain why. Then solve exactly.

Problem 15: Saving for a bike

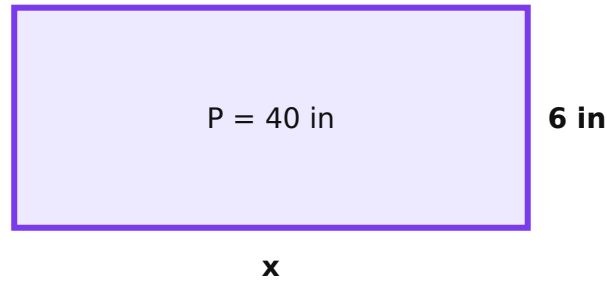
Jamal has \$45 and saves \$8 each week. After w weeks he has \$93. Write an equation and find w .



Starting amount plus w weeks of savings.

Problem 16: Rectangle perimeter

A rectangle is 6 in wide. Its perimeter is 40 in. Write an equation of the form $2(x+6)=40$ for the length x and solve it. Then solve the problem again with arithmetic.



Perimeter: 40 in.

Problem 17: Movie night

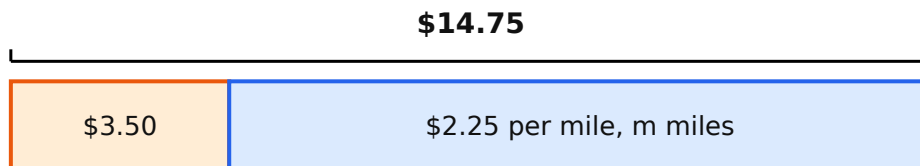
Three friends each buy a movie ticket costing t dollars and a \$2 popcorn. They spend \$27 in all. Write an equation and find the price of one ticket.



Three friends each buy a ticket and a popcorn.

Problem 18: Taxi ride

A taxi charges \$3.50 plus \$2.25 for each mile. Aisha pays \$14.75 for a ride. Write an equation and find the number of miles m she rides.



Fee plus cost of the miles makes the fare.

Problem 19: Warming up

At 6 a.m. the temperature is -3°F . It rises by 2.5°F each hour. After h hours it is 12°F . Write an equation and find h .

Problem 20: Diego's number

Diego thinks of a number, adds 6, and multiplies the result by 5. He gets 55. (a) Find the number with an arithmetic solution. (b) Write and solve an equation. (c) Explain how the two solutions are alike.