

Algebra 1 - Systems of Linear Equations - Worksheet

Common Core A-REI.C.5, A-REI.C.6, A-REI.D.11, A-CED.A.3 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

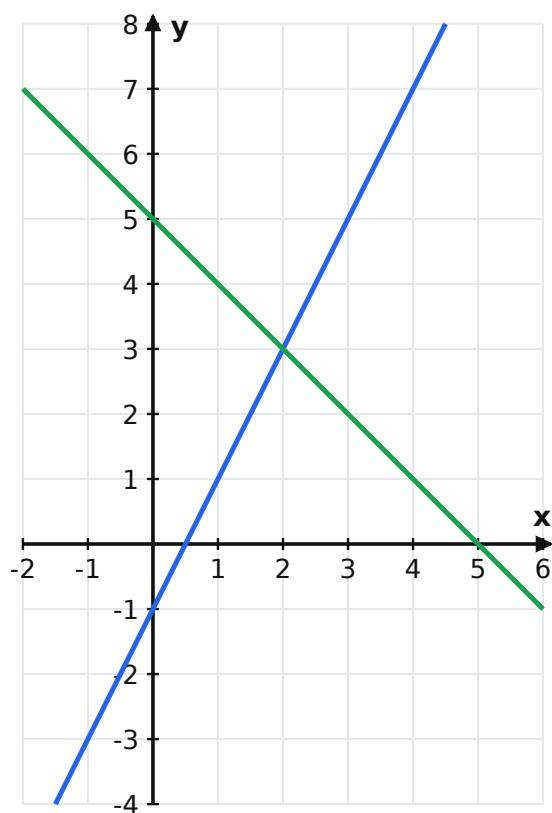
These 20 problems practice systems of linear equations (Common Core A-REI.C.5, A-REI.C.6, and A-REI.D.11). You will solve systems by graphing, substitution, and elimination, recognize no solution and infinitely many solutions, and model real problems with two equations. The first problems are short skill checks, and the last six are word problems that need several steps. Work in order and show every line of your work, because a bare answer earns little credit on a test.

Algebra 1 · Common Core State Standards: **A-REI.C.5, A-REI.C.6, A-REI.D.11, A-CED.A.3**

Exercise 1 - Check a solution

Determine whether $(2,3)$ is a solution of the system $y = x + 1$ and $y = -x + 5$.

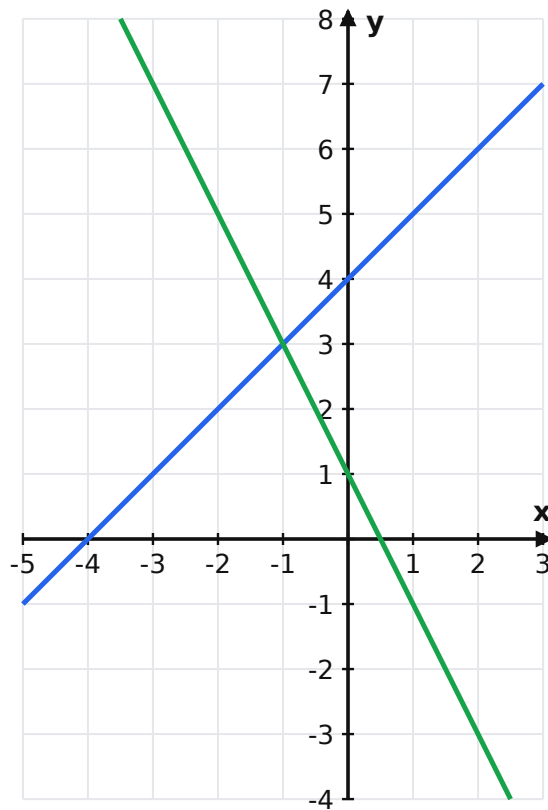
Exercise 2 - Solve by graphing



Graph of both lines.

Solve the system by graphing: $y = 2x - 1$ and $y = -x + 5$.

Exercise 3 - Graph and read



Two lines.

Solve the system by graphing: $y = x + 4$ and $y = -2x + 1$.

Exercise 4 - Parallel lines

Without graphing, decide how many solutions the system has: $y = 3x + 2$ and $y = 3x - 4$.

Exercise 5 - Same line

How many solutions does the system $y = 2x + 1$ and $2y = 4x + 2$ have?

Exercise 6 - Substitution with $y = 3x$

Solve by substitution: $y = 3x$ and $x + y = 12$.

Exercise 7 - Substitution with x

Solve by substitution: $x = 2y - 1$ and $3x + y = 11$.

Exercise 8 - Two slope-intercept equations

Solve: $y = -x + 7$ and $y = 2x + 1$.

Exercise 9 - Substitution after rearranging

Solve: $2x + y = 10$ and $3x - y = 5$.

Exercise 10 - Elimination by adding

Solve by elimination: $x + y = 14$ and $x - y = 6$.

Exercise 11 - Elimination with opposites

Solve by elimination: $2x + 3y = 12$ and $4x - 3y = 6$.

Exercise 12 - Elimination by subtracting

Solve by elimination: $3x + 2y = 16$ and $x + 2y = 8$.

Exercise 13 - Multiply one equation

Solve: $2x + 3y = 13$ and $5x - 2y = 4$.

Exercise 14 - Multiply both equations

Solve: $3x - 4y = 1$ and $2x + 3y = 12$.

Exercise 15 - Elimination gives no solution

Solve: $2x + 4y = 8$ and $x + 2y = 10$.

Exercise 16 - Movie tickets

Ticket	Price
Adult	\$9
Student	\$6

Ticket prices.

A theater sells adult tickets for \$9 and student tickets for \$6. Eight tickets cost \$60. Write and solve a system for the number of adult tickets a and student tickets s .

Exercise 17 - Coins

Coin	Value	Number
Dime	\$0.10	d
Quarter	\$0.25	q

Coin values.

Aisha has 18 coins, all dimes and quarters, worth \$3.00 in total. Write and solve a system for the number of dimes d and quarters q .

Exercise 18 - Two gyms

Gym	Joining fee	Per month
A	\$30	\$20
B	\$0	\$35

Two gym prices.

Gym A charges a \$30 joining fee plus \$20 per month. Gym B has no joining fee and charges \$35 per month. Write a system and find when the total costs are equal.

Exercise 19 - Bake sale

At a bake sale, Noah sells 40 items, cookies at \$1.50 and muffins at \$2.50, for \$70 in all. Find the number of cookies c and muffins m .

Exercise 20 - Boat and current

A boat travels 24 miles downstream in 2 hours and returns upstream in 3 hours. Find the boat's speed b in still water and the current's speed c in miles per hour.

Exercise 21 - Number problem

The sum of two numbers is 42. One number is 6 more than twice the other. Find the numbers.