

Solving Systems of Linear Equations

The student will solve systems of two linear equations in two variables, both algebraically and graphically, and apply these techniques to solve practical problems.

SOL A.4e

Materials: problem cards and graphing calculators

Groups: groups of 4

Game:

Students are in groups of four. All four students solve the first problem at the same time. One student solves by graphing; one student solves by linear combination; one student solves by substitution; and the fourth solves using matrices. After all four students have finished the first problem, they compare answers with each other. They assist each other to ensure all four solutions are correct before trading problems with another group. Methods of solving are rotated so that each student gains experience with all four methods.

$$y = 3x - 1$$

$$y = x + 3$$

$$3x + 2y = 8$$

$$x - y = 3$$

$$x + y = 8$$

$$x - y = 2$$

$$2x + 3y = 12$$

$$x + y = 4$$

$$y = 4x$$

$$x + y = 12$$

$$2x + 2y = 10$$

$$-x + y = 1$$

The sum of two numbers is 10. The difference is 2. Find the numbers.