



Algebra 1

Topic: Solving Special Systems of Linear Equations

Instructions

Solve the following special systems of linear equations. Show all your work and check your solution.

Practice Problems

1. Solve the system of linear equations using substitution or elimination:

(i) $x + 4y = 30$
 $2x - y = 0$

(ii) $3x - 2y = 10$
 $x + y = 7$

(iii) $5x + 3y = 11$
 $4x - y = 5$

(iv) $2x + 3y = 8$
 $x - y = 1$

2. Solve the special systems of equations with no solution, infinitely many solutions, or a unique solution:

(i) $2x - 3y = 5$
 $4x - 6y = 10$

(ii) $x + y = 6$
 $2x + 2y = 12$

(iii) $x + 2y = 5$
 $2x + 4y = 10$

(iv) $3x + y = 9$
 $2x + y = 6$

3. Solve the system using graphing method:

(i) $y = 2x + 4$
 $y = -x + 1$

(ii) $y = x + 3$
 $y = 3x - 4$

Multiple-Choice Questions

1. The system of equations $x + 2y = 10$ and $2x + 4y = 20$ has:
 - a. No solution
 - b. Infinitely many solutions
 - c. A unique solution
 - d. No solutions if y is substituted
2. The solution to the system $2x - 3y = 5$ and $4x - 6y = 10$ is:
 - a. $(2, 1)$
 - b. No solution
 - c. Infinitely many solutions
 - d. $(0, 0)$
3. The solution to the system $x + y = 6$ and $2x + 2y = 12$ is:
 - a. $(1, 5)$
 - b. $(2, 4)$
 - c. $(0, 6)$
 - d. Infinitely many solutions

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