Algebra 1

Topic: Solving Systems of Linear Equations by Elimination

Instructions

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

Practice Problems

1. **Solve the system of linear equations by 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 system of linear equations by elimination. Check your solution:**

   (i) $x - 3y = -5$
   $4x + y = -1$

   (ii) $3x + y = 7$
   $x - 2y = 4$

   (iii) $5x - 4y = 9$
   $x + 3y = 6$

   (iv) $2x + y = 5$
   $3x - 2y = 8$

   (v) $x + 2y = 12$
   $3x + y = 10$

   (vi) $2x + y = 7$
   $4x - y = 8$

Multiple-Choice Questions

1. The solution to the system $x + y = 7$ and $3x - y = 4$ is:

   a. $(2, 5)$

   b. $(3, 4)$

   c. $(1, 6)$

   d. $(0, 7)$

2. The solution to the system $x + 2y = 6$ and $3x - 4y = 5$ is:

   a. $(1, 2)$

   b. $(2, 1)$

   c. $(3, 0)$

   d. $(0, 3)$

3. The solution to the system $2x + y = 9$ and $4x - 3y = 7$ is:

   a. $(1, 7)$

   b. $(2, 5)$

   c. $(3, 4)$

   d. $(0, 9)$

Challenge Problem

Solve the following system of linear equations by elimination:

$$3x + 2y = 14$$

$$5x - 4y = 6$$

Find the values of x and y.

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