

## Algebra RH

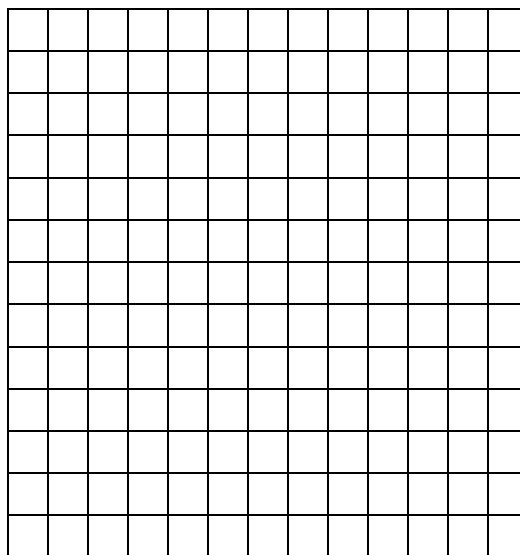
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**Essential Question:** How do we solve a linear system algebraically?

**Do Now:** Solve the following linear system graphically.

$$-x + y = 1$$

$$2x + y = -2$$



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Solve the linear system from the *Do Now* algebraically.

**Solving a Linear System by Substitution (*Substitution Method*)**

**Examples:** Use the substitution method to solve the following linear systems. Don't forget to check!

1.  $2x + 2y = 3$   
 $x - 4y = -1$

2.  $2a + 4b = 10$   
 $3a - b = 1$

3.  $y = 3x + 4$   
 $y = 2x - 9$

Solve the following systems algebraically using the substitution method. Check your solution.

1.  $y = 2x$   
 $5x - y = 30$

2.  $m = 4n$   
 $3m - 2n = 20$

3.  $3n + 5m = 7$   
 $m - 4n = 6$

4.  $3y - x = -9$   
 $2y + 5x = 11$

5.  $3x + 2y = 11$   
 $x - 2 = -4y$

6.  $\frac{1}{2}y - x = 1$   
 $x + y + 7 = 0$