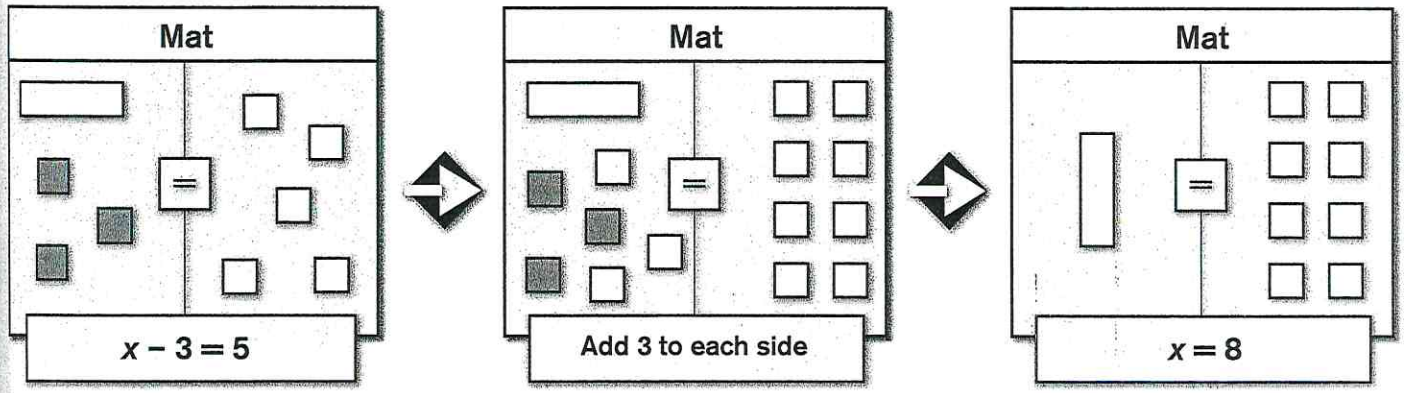
ACTIVITY 4.1 Solving Linear Equations ($a = 1$)

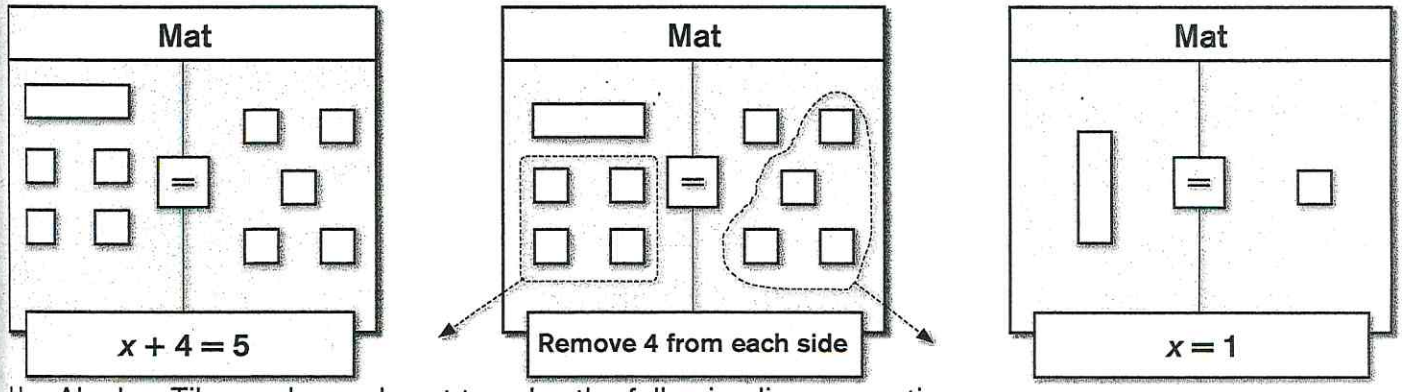
Name:

When **solving linear equations**, *we find a value for the variable that satisfies the equation. Sometimes they are easy and we might be able to guess the value. For example,* $x - 3 = 5$. In this equation, $x = 8$. **Two different methods to solve a linear equation are shown below.**

In the first method, we add the same quantity to both sides of the linear equation $x - 3 = 5$.



In the second method, we just subtract the same quantity from both sides of the linear equation $x + 4 = 5$.



Use Algebra Tiles and a work mat to solve the following linear equations.

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

4. $x - 2 = 3$ _____ 5. $x + 3 = 12$ _____ 6. $x - 3 = 2$ _____

7. Explain the steps you used to find the value of x in Problem 6. _____

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All of the equations you solved had a numerical coefficient of 1 for the x-term. In some problems it is a greater positive number.

8. ~~Work with a partner to~~ solve this equation: $2x - 3 = 5$. _____

9. Explain the steps you used to find the value of x. _____

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Use Algebra Tiles and a work mat to solve the following linear equations.

10. $3x - 1 = 2$ _____ 11. $2x + 3 = 9$ _____ 12. $4x - 2 = 6$ _____