Lesson 3.1  Solving Two-Step Equations

Goal
Model and solve two-step equations.

Materials
- algebra tiles

3.1 Modeling Two-Step Equations

Investigate

Use algebra tiles to model and solve the equation.

1. Model $3x + 6 = 12$ using algebra tiles.

2. Remove six 1-tiles from each side.

3. Divide the remaining tiles into three equal groups. Each $x$-tile is equal to two 1-tiles. So, the solution is 2.

Draw Conclusions

Use algebra tiles to model and solve the equation.

1. $1 + 2x = 9$
2. $4x + 1 = 5$
3. $2x + 2 = 8$
4. $9 = 2x + 5$
5. $11 = 2 + 3x$
6. $5x + 3 = 8$

7. **Critical Thinking** What property of equality is used in Step 2 in Step 3?

8. **Writing** For each algebra-tile model shown above, write a corresponding algebraic equation.

9. **Interpret** Describe the steps you would take to solve $2x + 1 = 5$ without using algebra tiles.