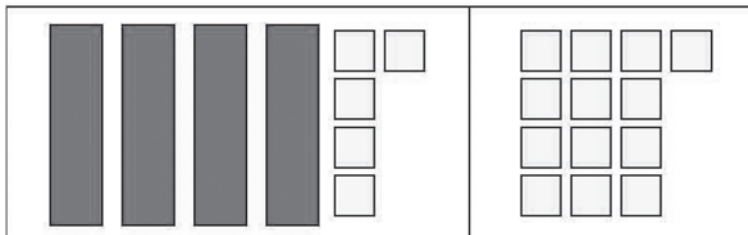
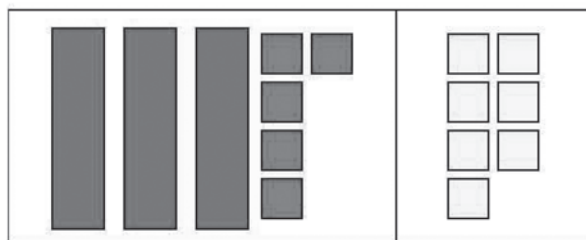


**Practice
8-3*****Solving Two-Step Equations***

1. Use the algebra tiles to help you solve the equation $4x + 5 = 13$.

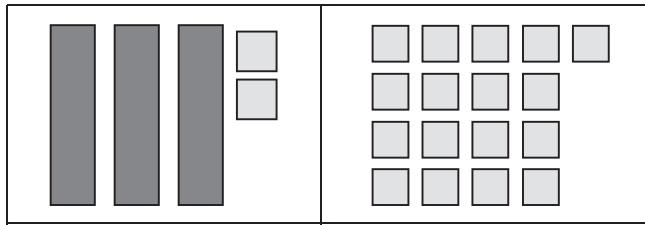


2. Use the algebra tiles to help you solve the equation $3x - 5 = 7$.

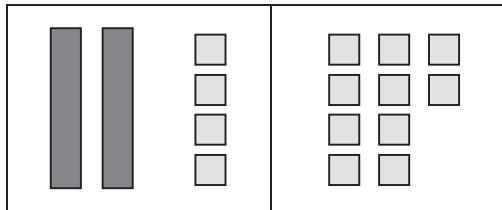


3. Complete the steps to solve the equation $6x + 16 = 58$.
- Apply the Subtraction Property of Equality.
 - Apply the Division Property of Equality.
4. Solve the equation $7x - 7 = 56$.
5. When three times a number is decreased by 4, the result is 14.
- Write an equation that you can use to find the number. Let n represent the number.
 - What is the number?
6. In 2000, the number of federal hazardous waste sites in State X was 8 less than twice the number of sites in State Y. Suppose there were 34 such sites in State X. Write and solve an equation that represents the number of hazardous waste sites, n , there were in State Y.

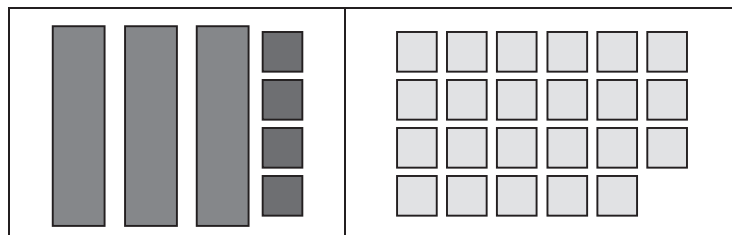
7. a) **Writing** Solve the equation $3x + 2 = 17$ using algebra tiles.



- b) Describe a real world situation that could be modeled with the given equation and algebra tiles.
8. a) **Reasoning** Solve the equation $8x + 2 = 26$.
- b) How is solving a two-step equation similar to solving a one-step equation?
9. **Error Analysis** A student solved the equation $2x + 4 = 10$ using algebra tiles. She incorrectly says the solution is 7.



- a) Solve the equation.
- b) What mistake might the student have made?
- ☐ A. She multiplied each side by the 1's instead of dividing by them.
 - ☐ B. She added the 1's to the right side instead of subtracting them.
 - ☐ C. She divided each side by the 1's instead of multiplying by them.
 - ☐ D. She subtracted the 1's from the right side instead of adding them.
10. **Shopping** While shopping for clothes, Tracy spent \$38 less than 3 times what Daniel spent. Tracy spent \$10. Write and solve an equation to find how much Daniel spent. Let x represent how much Daniel spent.
11. **Mental Math** Solve the equation $\frac{n}{10} + 7 = 10$.
12. a) Write the modeled equation.



- b) Use the algebra tiles to help you solve the equation.

- 13. Multiple Representations** A group of 4 friends went to the movies. In addition to their tickets, they bought a large bag of popcorn to share for \$6.25. The total was \$44.25.
- Write and solve an equation to find the cost of one movie ticket, m .
 - Draw a picture to model the equation.
- 14. Challenge** A number n times 26, decreased by 126, is 238. A number m times 9, added to 112, is 265.
- Choose an equation for n .
 - $26 - 126n = 238$
 - $26n - 126 = 238$
 - $126n - 26 = 238$
 - $126 - 26n = 238$
 - Solve the equation.
 - Choose an equation for m .
 - $112 - 9m = 265$
 - $112m + 9 = 265$
 - $112m - 9 = 265$
 - $112 + 9m = 265$
 - Solve the equation.
 - Compare n and m using a $<$, $>$, or $=$ symbol.
- 15. Challenge** At a party, the number of people who ate meatballs was 11 less than $\frac{1}{3}$ of the total number of people. The number of people who ate meatballs was 5.
- Write and solve an equation to find the number of people at the party. Let x represent the number of people at the party.
 - Write a one-step equation that has the same solution.