

### Lesson 5-3: Solve Equations Using the Distributive Property

1. Sample answer: You can use the Distributive Property to solve problems like  $p(x + q) = r$  by expanding the expression on the left side.
2. The signs of the terms become the opposite of what they were.
3. Sample answer: The coefficient is on the left side of the model and the terms inside the parentheses are along the top side of the model. The area, or total amount, is the product of the coefficient and the 2 terms.
4. \$15
5. Sample answer:  $\frac{1}{4}$  of 41 is roughly 10, which is about the total price drop for the two items. This suggests that an error has been made. The equation that matches the problem situation is  $\frac{1}{4}(x+18) = 10.25$ ,  $x = 23$ .  
The original price of the shorts is \$23.
6. D
7. -2; -2  
-2x; -10  
-2x; 10  
-2  
-7
8. b; -5  
 $\frac{4}{5}b$   
4;  $\frac{4}{5}b$   
7.2; b
9.  $\frac{1}{8} \cdot p$ ;  $\frac{1}{8} \cdot 24$ ; 9  
48
10.  $\frac{2}{3} \cdot 6a$ ;  $\frac{2}{3} \cdot 9$ ; 20.4  
3.6
11. a. Division  
b. Multiplication
12. a.  $4(x+19) = 752$   
b. \$169
13. \$159.75
14. a.  $r = 8$   
b. Sample answer: The student may have thought that the result of multiplying negative numbers is always negative, similar to adding two negative numbers.
15. Sample answers:  $9 + r + 9 = 27.5$   
 $\frac{1}{2}(27\frac{1}{2} - r) = 9$   
 $r = 9\frac{1}{2}$   
The towel bar is  $9\frac{1}{2}$  inches long.
16. a.  $180.39 = 7(0.05m + 19.70 + 1.97)$   
b.  $m = 82$
17.  $12(m+15) = 900$ ;  $m = 60$