

**Practice  
2-1*****Solving Two-Step Equations***

1. Solve  $\frac{y}{6} + 6 = -8$ .
2. Solve  $\frac{x}{8} - 4 = \frac{15}{16}$ .
3. A rental company rents a luxury car at a daily rate of \$38.34 plus \$.50 per mile. Paul is allotted \$100 for car rental each day.
  - a) Which equation represents the cost,  $C$ , of renting a car and driving  $x$  miles?  

<input type="radio"/> A. $C = 38.34x + 0.50$	<input type="radio"/> C. $38.34 = Cx + 0.50$
<input type="radio"/> B. $38.34 = C + 0.50x$	<input type="radio"/> D. $C = 38.34 + 0.50x$
  - b) How many miles can Paul travel on the \$100?
4. The same number of guests are seated at each of 11 large tables. There are 2 guests seated at one small table.
  - a) Which equation represents the total number of guests,  $T$ , and the number of people,  $x$ , at each large table?  

<input type="radio"/> A. $11 = Tx + 2$	<input type="radio"/> C. $T = 11 + 2x$
<input type="radio"/> B. $T = 11x + 2$	<input type="radio"/> D. $11 = T + 2x$
  - b) If there are 90 guests, how many are seated at each large table?
5. Solve  $7x + 11x = 144$ . Simplify your answer.
6. A contractor bought  $8.2 \text{ ft}^2$  of sheet metal. She used  $2.1 \text{ ft}^2$  so far and has \$183 worth of sheet metal remaining. The equation  $8.2x - 2.1x = 183$  represents how much sheet metal is remaining and the cost of the remaining amount. How much does sheet metal cost per square foot?
7. **a) Writing** Solve  $\frac{y}{5} - 2 = 1$ .  
**b)** Think of a situation in your own life that could be represented by a two-step equation. Write and solve the two-step equation.
8. **Reasoning** A worker on the production line is paid a base salary of \$220.00 per week plus \$0.92 for each unit produced.
  - a) Which equation represents the weekly salary of \$428.84 when she produces  $x$  units?  

<input type="radio"/> A. $428.84 = 220x + 0.92$	<input type="radio"/> C. $220 = 428.84 + 0.92x$
<input type="radio"/> B. $220 = 428.84x + 0.92$	<input type="radio"/> D. $428.84 = 220 + 0.92x$
  - b) How many units did she produce?

9. **Running** An athlete runs an equal distance 4 days a week. The other 3 days of the week, she runs a total of 11 miles.
- a) Which equation represents the total number of miles run in a week,  $R$ , and the number of miles,  $x$ , run each of the 4 days?
- ☐ A.  $4 = R + 11x$  ☐ C.  $4 = Rx + 11$
- ☐ B.  $R = 4 + 11x$  ☐ D.  $R = 4x + 11$
- b) If the athlete ran 43 miles last week, how far did she run each of the first 4 days?
10. a) **Error Analysis** Your friend incorrectly says the solution to this equation is  $\frac{8}{9}$ . Solve the equation  $11y - 7y = 16$  correctly.
- b) What error did your friend likely make?
- ☐ A. She added like terms instead of subtracting.
- ☐ B. She incorrectly subtracted like terms.
- ☐ C. She divided incorrectly.
- ☐ D. She solved for  $\frac{1}{y}$  instead of for  $y$ .
11. Solve  $\frac{z}{5} - 4 = 2\frac{1}{4}$ . Simplify your answer.
12. Jacek went to a sporting event with some friends. They bought 2 snacks of equal price and a drink that cost \$4.09.
- a) Which equation represents the total cost  $T$  and the cost  $s$  of each snack bought?
- ☐ A.  $T = 2 + 4.09s$  ☐ C.  $2 = T + 4.09s$
- ☐ B.  $2 = Ts + 4.09$  ☐ D.  $T = 2s + 4.09$
- b) How much did each snack cost if they spent \$14.85 total?
13. A 132-inch board is cut into two pieces. One piece is three times the length of the other. Find the length of the shorter piece.
14. **Think About the Process** You are given the following equation.
- $$\frac{1}{4}y - 3 = -18$$
- a) What is the first operation you would use to solve the equation?
- ☐ A. Multiplication ☐ C. Addition
- ☐ B. Division ☐ D. Subtraction
- b) Solve the equation to find the value of  $y$ .

**15. Think About the Process** A limousine driver earns a daily rate of \$123.81 plus \$0.82 per mile driven.

a) Which equation represents the amount  $T$  she earns for driving  $M$  miles each day?

☐ A.  $T = 123.81M + 0.82$

☐ C.  $123.81 = TM + 0.82$

☐ B.  $T = 123.81 + 0.82M$

☐ D.  $123.81 = M + 0.82T$

b) What is the first step in solving the equation?

☐ A. Multiply by a power of 10 to remove the decimals.

☐ B. Combine all like terms.

☐ C. Divide by a power of 10 to remove the decimals.

☐ D. Divide by the coefficient of  $M$ .

c) She earns \$\_\_\_\_\_ when she drives 160 miles in a day.

1.  $-84$
2.  $40\frac{1}{8}$
3. a) D  
b) 123.32 mi
4. a) B  
b) 8
5.  $x = 8$
6. \$30 per  $\text{ft}^2$
7. a)  $y = 15$   
b) Answers will vary
8. a) D  
b) 227
9. a) D  
b) 8 mi
10. a)  $y = 4$   
b) A
11.  $z = 31\frac{1}{4}$
12. a) D  
b) \$5.38
13. 33 in.
14. a) C  
b)  $y = -60$
15. a) B  
b) A  
c) 255.01