## Practice 2-4

## **Equations with Variables on Both Sides**

Solve each equation. Check your answer. If appropriate, write identity or no solution.

**1.** 
$$7 - 2n = n - 14$$

**4.** 
$$6t = 3(t + 4) - t$$

**7.** 
$$3(n-1) = 5n + 3 - 2n$$
 **8.**  $2(6-4d) = 25-9d$ 

**10.** 
$$8(2f - 3) = 4(4f - 8)$$

**13.** 
$$4(b-1) = -4 + 4b$$

**16.** 
$$\frac{2}{3}a - \frac{3}{4} = \frac{3}{4}a$$

**19.** 
$$4.3v - 6 = 8 + 2.3v$$

**22.** 
$$6v + 9 = 3(2v + 3)$$

**25.** 
$$6 - 3d = 5(2 - d)$$

**28.** 
$$3(2f+4)=2(3f-6)$$

**31.** 
$$\frac{1}{2}d - \frac{3}{4} = \frac{3}{5}d$$

**2.** 
$$2(4-2r)=-2(r+5)$$

**5.** 
$$8z - 7 = 3z - 7 + 5z$$

**8.** 
$$2(6-4d)=25-9d$$

**11.** 
$$6k - 25 = 7 - 2k$$

**14.** 
$$\frac{1}{4}x + \frac{1}{2} = \frac{1}{4}x - \frac{1}{2}$$

**17.** 
$$2s - 12 + 2s = 4s - 12$$

**20.** 
$$4b - 1 = -4 + 4b + 3$$

**23.** 
$$4g + 7 = 5g - 1 - g$$

**26.** 
$$6.1h = 9.3 - 3.2h$$

**29.** 
$$\frac{3}{4}t - \frac{5}{6} = \frac{2}{3}t$$

**32.** 
$$5(r+3) = 2r+6$$

**3.** 
$$3d + 8 = 2d - 7$$

**6.** 
$$7x - 8 = 3x + 12$$

**9.** 
$$4s - 12 = -5s + 51$$

**12.** 
$$3v - 9 = 7 + 2v - v$$

**15.** 
$$6 - 4d = 16 - 9d$$

**18.** 
$$3.6y = 5.4 + 3.3y$$

**21.** 
$$\frac{2}{3}(6x + 3) = 4x + 2$$

**24.** 
$$2(n + 2) = 5n - 5$$

**27.** 
$$-4.4s - 2 = -5.5s - 4.2$$

**30.** 
$$3v + 8 = 8 + 2v + v$$

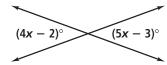
**33.** 
$$8 - 3(p - 4) = 2p$$

Write an equation to model each situation. Then solve. Check your answer.

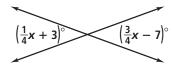
- **34.** Hans needs to rent a moving truck. Suppose Company A charges a rate of \$40 per day and Company B charges a \$60 fee plus \$20 per day. For what number of days is the cost the same?
- **35.** Suppose a video store charges nonmembers \$4 to rent each video. A store membership costs \$21 and members pay only \$2.50 to rent each video. For what number of videos is the cost the same?
- **36.** Suppose your club is selling candles to raise money. It costs \$100 to rent a booth from which to sell the candles. If the candles cost your club \$1 each and are sold for \$5 each, how many candles must be sold to equal your expenses?

Find the value of x.

37.



38.



39.

