

## Practice 3-3

## Equations with Variables on Both Sides

Write and solve an equation for each situation. Check your solution.

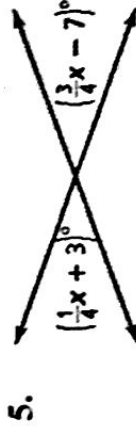
1. Hans needs to rent a moving truck. Suppose Company A charges a rate of \$40 per day and Company B charges a \$60 fee plus \$20 per day. For what number of days is the cost the same?

2. 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?

3. 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  $x$ .

4. 

5. 

6. 

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

7.  $6t = 3(t + 4) - t$

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

9.  $7x - 8 = 3x + 12$

10.  $3(n - 1) = 5n + 3 - 2n$

11.  $2(6 - 4d) = 25 - 9d$

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

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

13.  $8(2f - 3) = 4(4f - 8)$

14.  $6k - 25 = 7 - 2k$

15.  $3v - 9 = 7 + 2v - v$

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

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

18.  $3.6y = 5.4 + 3.3y$

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

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

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

22.  $6y + 9 = 3(2y + 3)$

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

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

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

26.  $6.1h = 9.3 - 3.2h$

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

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

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

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

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

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

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