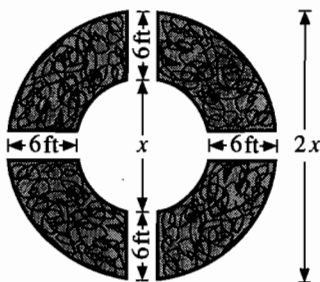


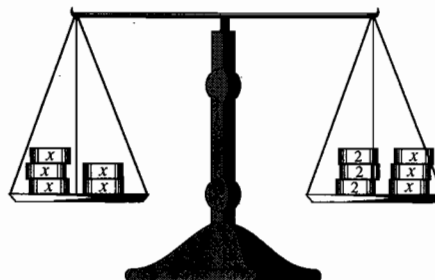
In 1–24, solve the equation by collecting like variables on the same side.

1.  $2x + 5 = 3x$
2.  $-2x = -4x + 20$
3.  $7x - 20 = -3x$
4.  $7x = 4x - 9$
5.  $-8x - 70 = 2x$
6.  $\frac{1}{4}x + 3 = -\frac{1}{4}x$
7.  $8x - 3 = 2x$
8.  $\frac{1}{3}x = 7 - \frac{2}{3}x$
9.  $2x + 3 = 4x + 5$
10.  $-3x - 4 = 4x + 10$
11.  $7x - 3 = 19 + 5x$
12.  $6 - 2x = 5 - 7x$
13.  $5x + 4 = 2x + 28$
14.  $3(x - 3) = 5x - 11$
15.  $2(3x + 4) = 5x + 8$
16.  $2x + 23 = 3(2x + 1)$
17.  $4(x + 2) = -4 - 2x$
18.  $5x = 5(-3 + 2x)$
19.  $\frac{1}{2}(2x - 6) = 2x$
20.  $12x + 44 = x$
21.  $3(4 + x) = 2(x - 1)$
22.  $2x = 10x + 16$
23.  $-3x - 54 = -12x$
24.  $2(3 - x) = 22 + 2x$

- 25. Dimensions of a Circular Flower Garden** A flower garden has the shape pictured below. The diameter of the outer circle is twice the diameter of the inner circle. The lengths of the walkways are each 6 feet long. What is the diameter of the inner circle?



- 26. Balanced Scale** On one side of a scale there are 6 coins, 3 weighing 2 grams each and 3 weighing  $x$  grams each. The scale is balanced if 5 coins weighing  $x$  grams each are placed on the other side of the scale. How much does each of the unknown coins weigh?



- 27. Distance-Rate-Time** Two cars travel the same distance. The first car travels at a rate of 40 mph and reaches its destination in  $t$  hours. The second car travels at a rate of 55 mph and reaches its destination 3 hours earlier than the first car. How long does it take for the first car to reach its destination?

Rate Car 1	·	Time Car 1	=	Rate Car 2	·	Time Car 2
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- 28. Teeter-Totter** Two children weighing 40 pounds and 50 pounds are on a teeter-totter, as shown at the right. The 50-pound child is sitting 1 foot closer to the center than the 40-pound child. To balance the teeter-totter, the 40-pound child must sit  $x$  feet from the center where  $x$  is a solution of the equation  $50(x - 1) = 40x$ . Solve for  $x$ .

