Section 3.3   Focus Exercise Answers

1. a) Let x = the number of points on his second test.

  c) $\dfrac{x + 82}{2} = 87$ e)   x = 92

  f) Sam got 92 points on his second test

2. a) Let x = the number of points he will need on his third test.

  c) $\dfrac{87 + 85 + x}{3} = 90$ e)   x = 98

  f) Anthony will need to score 98 points on his third test to reach his goal.

3. a) Let x = his average rate of speed for the journey.

  c) $42 = \dfrac{3}{2} x$ e)   x = 28

  f) Kahlill's average rate of speed was 28 mph.

4. a) Let x = the width of the garden.

  c) $2(18) + 2(x) = 50$ e)   x = 7

  f) The width of the garden needs to be 7 feet.

5. a) Let x = the amount he received from his McDonald's stock;
    x + 10,000 = the amount he received from his Pepsi stock.

  c) x + (x + 10,000) = 92,000   e)   x = 41,000

  f) Maurice received $41,000 from his McDonald's stock and $51,000 from his Pepsi stock.

6. a) Let x = the amount Phyllis will receive;

    $\dfrac{2}{3} x$ = the amount Larry will receive.

  c) $x + \dfrac{2}{3} x = 80,000$ e)   x = 48,000

  f) Phyllis will receive $48,000 and Larry will receive $32,000.

7. a) Let x = the measure of the middle angle;

    $\dfrac{1}{4} x$ = the measure of the smallest angle.

  c) $\dfrac{1}{4} x + x + 90 = 180$ $\left(\text{or } \dfrac{1}{4}x + x = 90\right)$ e)   x = 72

  f) The middle angle is 72° and the smallest angle is 18°.

8. a) Let x = her first test score;

x + 12 = her second test score.

c) $\dfrac{x + (x + 12)}{2} = 81$ e) x = 75

f) April scored 75 points on her first test and 87 points on her second test.

9. a) Let x = the length of the vertical piece;

$\dfrac{1}{3}$ x = the length of the cross piece.

c) x + $\dfrac{1}{3}$ x = 28   e) x = 21

f) The verical piece is 21 inches and the cross piece is 7 inches.

10. a) Let x = the amount Nancy receives;

x + 10,000 = the amount Janet receives;

2(x + 10,000) = the amount Jolene receives.

c) x + (x + 10,000) + 2(x + 10,000) = 98, 000   e) x = 17,000

f) Nancy will receive $17,000, Janet will receive $27,000, and Jolene will receive $54,000.

11. a) Let x = the measure the smallest angle;

2x = the measure the largest angle;

x + 20 = the measure the middle angle.

c) x + 2x + (x + 20) = 180   e) x = 40

f) The smallest angle is 40°, the middle angle is 60°, and the largest angle is 80°.

12. a) Let x = the measure the smallest angle;

3x = the measure the largest angle;

3x − 30 = the measure the middle angle.

c) x + 3x + (3x − 30) = 180   e) x = 30

f) The smallest angle is 30°, the middle angle is 60°, and the largest angle is 90°.