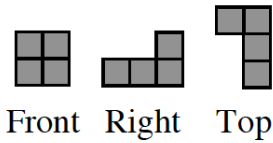**9-56. See below:**

  a. See diagram below.

     Front Right Top

  b. 2

  c. 24 and 96; ratio = 4; It is the square of the linear scale factor.

  d. 6 and 48; ratio = 8 = 2^3. It is the cube of the linear scale factor.

9-57. See below.

a. Height of the tank = $6\sqrt{3} \approx 10.4$ in, so $V = 7 \cdot 13 \cdot 6\sqrt{3} = 546\sqrt{3} \approx 945.7\text{in}^3$

b. $\dfrac{25 \text{ fish}}{945.7 \text{ in}^3} \approx \dfrac{0.026 \text{ fish}}{1 \text{ in}^3}$ or about 0.026 fish per cubic inch.

c. $\dfrac{25 \text{ fish}}{945.7 \text{ in}^3} \cdot \dfrac{12 \text{ inch}}{1 \text{ foot}} \cdot \dfrac{12 \text{ inch}}{1 \text{ foot}} \cdot \dfrac{12 \text{ inch}}{1 \text{ foot}} \approx \dfrac{45.68 \text{ fish}}{1 \text{ ft}^3}$

9-58. See below:

a. False (isosceles trapezoid)

b. True

c. True

d. False (parallelogram)

9-59. $2(12x + 7) = 30x - 4$, so $x = 3$

9-60. See below:

a. $x = -2$

b. $x = 5, -\dfrac{1}{2}$

c. $x = 2$

d. $x = -2, 3$

9-61. See below:

a. 0.85

b. $f(t) = 27000(0.85)^t$

c. $11,980

9-62. See below:

a. It is possible.

b. Not possible. Same-side interior angles should add up to 180°

c. Not possible. One pair of alternate interior angles are equal, but the other is not for the same pair of lines cut by a transversal; or, the vertical angles are not equal.

9-63. b and d