9-33. 24 square units; As a midsegment, *DE* must be half the length of *BC*. If the ratio of lengths is 0.5, then the ratio of areas is $0.5^2 = 0.25$.

9-34. Base Area = 509.23 cm²; Height = 5 cm; SA = 1438.44 cm²

9-35. Yes, by AAS ≅.

9-36. By the Addition Rule, $0.07 = \dfrac{11}{200} + \dfrac{4}{200}$ – P(long and lost), resulting in a probability of $\dfrac{1}{2}$ % that the food took too long and the rider got lost.

9-37. See below.

    a. 6 or −6

    b. No solution because absolute value cannot be negative.

    c. *x* = 3 or −17

9-38. $\pi(6)^2(14.5) = 522\pi$ in³; $\dfrac{522\pi \text{ in.}^3}{1} \cdot \dfrac{1 \text{ gallon}}{231 \text{ in.}^3} \approx 7.1$ gal

9-39. $f(x) = 32(\tfrac{1}{2})^x$

9-40. See below.

    a. 62.83 cm³

    b. 0.04 g/cm³