3-99. See below.

a. SSS ~ and SAS ~ (if students show that the triangles are right triangles)

b. AA ~ and SAS ~

c. None, since there is not enough information.

3-100. See below.

a. $\frac{24}{40} = 60\%$

b. $\frac{18}{x} = \frac{3}{10}, x = 60$

3-101. See below.

a. $12x^2 - 7x - 10$

b. $16x^2 - 8x + 1$

c. $x = -\frac{5}{9}$

d. $x = 3$

3-102. $\angle y = 48°$ because of vertical angles; $\angle z = 48°$ because of reflection of $\angle y$ or because of angle of incidence = angle of reflection with $\angle x$.

3-103. See below.

a. $-\frac{5}{6}$

b. $LD = \sqrt{61} \approx 7.81$ units

c. Calculate Δx and Δy by determining the difference in the corresponding coordinates.

3-104. Original: A = 135 sq. units, P = 48 units; New: A = 15 sq. units, P = 16 units