3-29. See below.

a. Zoom factor: 0.5; The sides are only half as long, so the side corresponding to the 16 must become 8, and the side corresponding to the 11 must become 5.5.

b. It is 1:1 because it is congruent.

3-30. P(original) = 18 units and P(new) = 36 units; A(original) = 18 sq. units and A(new) = 72 sq. units. The enlarged perimeter is 2 times greater. The enlarged area is not 2 times greater. Some students may notice that the enlarged area is 4 times greater.

3-31. See below.

a. $x = \frac{42}{5} = 8.4$

b. $m = 22$

c. $t = 12.5$

d. $x = \frac{3}{2} = 1.5$

3-32. See below.

a. $y = 3 - \frac{3}{5}x$

b. $A = 7.5$ sq. units, P = $8 = \sqrt{34} \approx 3.8$

c. $y = 3 + \frac{5}{3}x$

3-33. See below.

a. If the lines have the same slope, then they are parallel.

b. If a line is vertical, then the slope is undefined.

c. If lines have slopes $\frac{2}{3}$ and $-\frac{3}{2}$, then they are perpendicular.

3-34. See below.

a. alternate interior angles

b. vertical angles

c. corresponding angles

d. supplementary and/or adjacent angles