

**7-54. See below.**

- a.  $x = 8.5^\circ$
- b.  $x = 11$
- c.  $x = 14^\circ$

**7-55. See below.**

- a.  $360^\circ \div 72^\circ = 5$  sides
- b.  $360^\circ \div 9 = 40^\circ$

**7-56.**  $\approx 36.4$  feet from the point on the street closest to the art museum.

**7-57. See below.**

a.  $a_n = 20 + 20n = 40 + 20(n - 1)$

b.  $a_n = 6\left(\frac{1}{2}\right)^n = 3\left(\frac{1}{2}\right)^{n-1}$

**7-58. See below.**

- a.  $(0.7)(0.7) = 0.49 = 49\%$
- b.  $(0.3)(0.7) = 0.21 = 21\%$

**7-59. See below.**

- a. Similar (SSS  $\sim$ )
- b. Congruent (ASA  $\cong$  or AAS  $\cong$ )
- c. Similar, because if the Pythagorean Theorem is used to solve for each unknown side, then 3 pairs of corresponding sides have a common ratio; thus, the triangles are similar by SSS  $\sim$ .
- d. Similar (AA  $\sim$ ) but not congruent since the two sides of length 12 are not corresponding.

**7-60.** Possible response: Rotate the second triangle  $180^\circ$  and then translate it to match the sides with the first triangle.