6-73. See below.

a.   Yes, because parallel lines assure us that the alternate interior angles are congruent. Since corresponding angles in the triangles have equal measure, the triangles are similar by AA ~.

b. $\frac{x}{20} = \frac{x+2}{24}$, $x = 10$

6-74. See below.

a. $x = 4$

b. $x = 55°$

c. $x = 23°$ and $y = 43°$

d. $x = 5.5$ and $y = 45.2$

6-75. P(A or B) = P(A) + P(B) − P(A and B) = 4% + $\frac{1}{2}$ % − $\frac{1}{2}$ % = 4%. If a refrigerator has a dent it also always has a paint blemish.

6-76. area ≈ 100.55 sq. yards, perimeter ≈ 43.36 yards

6-77. See below.

a.   288 feet by 256 feet

b.   area of shape = 59.5 square units, area of island = 60,928 square feet

6-78. C