13-3   Two nonvertical lines are parallel if and only if their slopes are equal.   (p. 535)

13-4   Two nonvertical lines are perpendicular if and only if the product of their slopes is -1.   (p. 535)

$$m_1 \cdot m_2 = -1, \text{ or } m_1 = -\frac{1}{m_2}$$

13-5   **(The Midpoint Formula)**   The midpoint of the segment that joins points (x_1, y_1) and (x_2, y_2) is the point $\left(\dfrac{x_1 + x_2}{2}, \dfrac{y_1 + y_2}{2}\right)$.   (p. 544)

13-6   **(Standard Form)**   The graph of any equation that can be written in the form $Ax + By = C$, with A and B not both zero, is a line.   (p. 548)

13-7   **(Slope-Intercept Form)**   A line with the equation $y = mx + b$ has slope m and y-intercept b.   (p. 549)

13-8   **(Point-Slope Form)**   An equation of the line that passes through the point (x_1, y_1) and has slope m is $y - y_1 = m(x - x_1)$.   (p. 553)

Transformations

14-1   An isometry maps a triangle to a congruent triangle.   (p. 573)

Corollary 1   An isometry maps an angle to congruent angle.   (p. 573)

Corollary 2   An isometry maps a polygon to a polygon with the same area. (p. 573)

14-2   A reflection in a line is an isometry.   (p. 577)

14-3   A translation is an isometry.   (p. 584)

14-4   A rotation is an isometry.   (p. 589)

14-5   A dilation maps any triangle to a similar triangle.   (p. 594)

Corollary 1   A dilation maps an angle to a congruent angle.   (p. 594)

Corollary 2   A dilation $D_{O,k}$ maps any segment to a parallel segment $|k|$ times as long.   (p. 594)

Corollary 3   A dilation $D_{O,k}$ maps any polygon to a similar polygon whose area is k^2 times as large.   (p. 351)

14-6   The composite of two isometries is an isometry.   (p. 601)

14-7   A composite of reflections in two parallel lines is a translation. The translation glides all points through twice the distance from the first line of reflection to the second.   (p. 601)

14-8   A composite of reflections in two intersecting lines is a rotation about the point of intersection of the two lines. The measure of the angle of rotation is twice the measure of the angle from the first line of reflection to the second.   (p. 602)

Corollary   A composite of reflections in perpendicular lines is a half-turn about the point where the lines intersect.   (p. 602)