Section 8.7   Focus Exercises

1.   Given the equations of two lines, A and B, determine if they are parallel, perpendicular or neither.

a)   **A:** $3x - 5y = 10$

    B: $y = \frac{3}{5}x + 1$

b)   **A:** $y = \frac{1}{4}x - 2$

    B: $x - 4y = 12$

c)   **A:** $y = 3x - 5$

    B: $6x + 2y = 8$

d)   **A:** $y = -\frac{4}{3}x - 6$

    B: $3x - 4y = -8$

e)   **A:** $y = \frac{1}{2}x + 3$

    B: $10x - 5y = 2$

f)   **A:** $3x - 10y = 5$

    B: $10x + 3y = -5$

2.   Given information about two lines, A and B, determine if they are parallel, perpendicular or neither.

a)   Lines A and B are two different vertical lines. _____

b)   Lines A and B are two different horizontal lines. _____

c)   Line A is horizontal and line B is vertical. _____

3.   Find the equation of the line that passes through (- 1, - 7) and is

a)   *parallel* to $y = -3x - 1$

b)   *perpendicular* to $y = x + 6$

4. Find the equation of the line that passes through (6, 1) and is

a) *parallel* to $y = \frac{5}{2}x - 3$ b) *perpendicular* to $y = -\frac{3}{4}x + 5$

5. Find the equation of the line that passes through (- 6, 5) and is

a) *parallel* to $8x - 3y = 9$ b) *perpendicular* to $6x + 7y = -14$

6. Find the equation of the line that passes through (8, -3) and is

a) *parallel* to $5x - 2y = 7$ b) *perpendicular* to $4x + 3y = -3$