Pre-Calculus

Linear Functions Review Problems

1) Write the slope-intercept form of a line that passes through the points $(-2, 6)$ and $(5, -1)$.

2) Write the standard form of the line passing through $(4, 9)$ that is perpendicular to the line represented by $2x - 5y + 7 = 0$.

3) Are the lines $3y - 4x = 5$ and $4y + 3x = 6$ parallel, perpendicular, or neither? Explain how you know?

4) Write the equation of the line that is parallel to the x-axis passing through $f(x) = x^2 - 10x - 7$ evaluated at $f(-2)$.

5) Given the values in the table are derived from a linear function, complete the table.

x	$f(x)$
4	-18
	1
0	
-3	17
	-30
7	

6) Determine the slope of the line that passes through $(a + 2, b - 1)$ and $(a - 2, b)$.

7) If a rectangle was drawn on a coordinate grid, not parallel to any axis, what would be the product of the slopes of the four line segments of that rectangle? Explain how you arrived at your answer.

8) Given the point $P(-3, 5)$ lies on the line $kx + 3y + 9 = 0$, determine the value of k.