Tollbooth Quiz Number 1–SAMPLE 1

1. What is the equation of the line through (2, 3) and (1, 7)?

2. Let $f(x) = x^2 + 3$. What is the slope of the line containing the points $x = 2, y = f(2)$ and $x = 4, y = f(4)$?

3. What is the equation of the line containing the point $(-2, 3)$ with slope $1/3$?

4. Compute the point of intersection of the two lines $y = 3x - 2$ and $y = -x + 5$.

5. Give the equation of the line through $(0, 0)$ that is parallel to $y = x/3 + 2$.

6. Suppose that a corn field receiving no fertilizer yields 1 bushel per acre and a corn field receiving 1 unit of fertilizer per acre yields 5/4 bushel per acre.

   (a) If the relationship between fertilizer used and yield is linear, how much will yield will there be if 2 units of fertilizer are applied per acre?

   (b) Is it reasonable to assume that fertilizer and yield are linearly related for all possible amounts of fertilizer used? Explain.