1. Find slope intercept form of the equation of the line through \((3, -1)\) and \textit{perpendicular} to the line \(y = \frac{3}{4}x + 5\).

2. Find the equation of the line through the points \((-2, 1)\) and \((-2, 4)\).

3. In the 1966 Penn State football season, new head coach Joe Paterno won 5 games, as of the 2009 season JoePa had increased his number of victories to 394.

(a) Assuming the number of victories, was increasing at a constant rate, find a linear model giving the number of wins, \(N\), \textit{in terms of the year,} \(t\), with \(t = 6\) corresponding to the year 1966. \textit{If necessary, round values to one decimal place.}

(b) Use your model to find the total number of wins by the year 2012. \textit{If necessary, round values to one decimal place.}