In-Class Problems 7 for Wednesday, February 14

These problems are from Pre-Class Problems 7.

1. If $f(x) = 2x^2 - 7x$, then find the average rate of change of the function f on the intervals a. $[0, 2]$ b. $[2, 5]$ c. $[5, 5 + h]$

2. Find the point-slope form and the slope-intercept form for the equation of the line if given the following.

   a. passes through $(6, -8)$ and $(4, -2)$
   b. passes through $(0, -5)$ and $(3, 0)$
   c. passes through $(-4, -7)$ and is perpendicular to the line $4x - 3y = 12$

3. Mike makes a base salary of $600 per week plus 8% commission on all his sales.
   a. Write a linear function for Mike's weekly salary $S(x)$, where x represents his weekly sales. Find the domain and range of this function.
   b. Find $S(5000)$ and interpret its meaning.
   c. Determine the amount of sales Mike will need to make in order to have a salary of $2000 for one week.

4. Graph the function $y = \sqrt[3]{x}$ by plotting at least five points.