Linear Functions

1. Determine the following information:

   a) slope and y-intercept of the equation $-5x + 2y = 7$

   b) the slope of the line segment joining the points (-7, 3) and (4, 8)

   c) the midpoint of the line segment defined by having endpoints of (3, -8) and (11, 4)

   d) the distance between the points (-4, 7) and (-3, -9)

   e) the slope of a line that is parallel to the line with equation $4x - 7y = 11$

   f) the slope of the line perpendicular to another line that has a slope of 5/7

2. Determine the equation of the line given the following information:

   a) m = -5 and b = 3   b) $m = -3/4, b = 2$

   c) m = 5/7 passing through (0, -4)   d) m = -3 passing through (-3, 4)

   e) m = -5/3 passing through (-2, -6)   f) passing through the points (-3, 5) and (-1, 6)

   g) through (5, 2) parallel to $3x - 2y = 6$ h) through (-3, 5) perpendicular to $-4x + y = 6$

   i) through the point (3, -7) and parallel   j) through the point (-4, -6) and perpendicular
      to the x-axis   to the x-axis

   k) thorough (3, -2) parallel to the line   l) through (-5, 1) perpendicular to the line
      passing through (4, 8) and (6, 16)   passing through (-5, 2) and (5, 6)

   m) perpendicular bisector of the line segment defined by the endpoints (3, 2) and (-9, 10)