Point-Slope Form Homework

1. Write an equation in point-slope form for the line with the given information.
   (A) slope of 2; (3, 4)  
   \[ y - 4 = 2(x - 3) \]
   (B) slope of -2; (-3, 4)  
   \[ y - 4 = -2(x + 3) \]
   (C) slope of 3; (2, 6)  
   \[ y - 6 = 3(x - 2) \]
   (D) slope of 1/5; (-4, -2)  
   \[ y + 2 = \left(\frac{1}{5}\right)(x + 4) \]
   (E) (5, -2) and (-2, 5)  
   \[ m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-2 - (-2)}{5 - (-2)} = \frac{0}{7} = 0 \]
   \[ y + 2 = -(x - 5) \text{ or } y - 5 = -(x + 2) \]
   (F) (-3, 3) and (-4, 4)  
   \[ m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{4 - 3}{-4 - (-3)} = \frac{1}{-1} = -1 \]
   \[ y - 3 = -(x + 3) \text{ or } y - 4 = -(x + 4) \]

2. Graph the following equations on the given coordinate plane.
   (A) \[ y - 5 = 3(x - 2) \]
   (B) \[ y + 2 = 2(x - 4) \]
   (C) \[ y - 1 = 4(x + 3) \]
   (D) \[ y + 8 = \frac{1}{2}(x + 3) \]