Homework 19: The Normal Distribution

1. §5.6, #13.

2. Suppose that X is $N_{-10,16}$ distributed. Find (a) $P(X > -12)$, (b) $P(-11 < X < -8)$.

3. Suppose that the height, in inches, of a 25 year old man is a normal random variable with paraters $\mu = 71$ and $\sigma^2 = 6.25$. What percentage of 25 year old men are over 6 feet 2 inches tall? What percentage of men in the 6-footer club are over 6 foot 5 inches? How tall must a 25 year old man be in order to be in the top one percentile in height?

4. Everyone in a school is weighed. 40% weigh over 110 pounds and 13% weigh over 170 pounds. Assume that weight is normally distributed. Find the best choice for μ and σ.