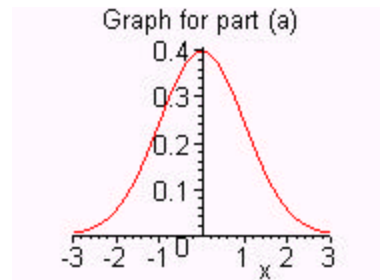
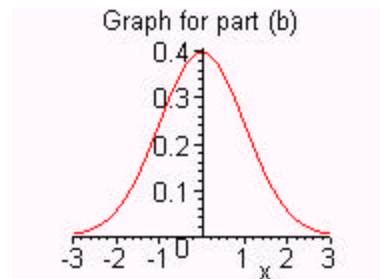


I. Suppose Z is a standard normal random variable. Please find the indicated probabilities and show these probabilities graphically on the graphs of the normal p.d.f.'s below. (4 points each)

(a) $P(Z < -1.56)$



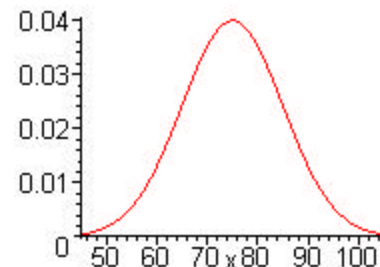
(b) $P(-.79 \leq Z \leq 1.52)$



(c) Find a number c such that $P(Z \geq c) = .0069$

II. Use the random variable $X \sim N(75, 100)$ to answer the following. (8 points total)

(a) Find $P(63 < X < 79)$. Show the probability graphically on the graph of the p.d.f given below. (5 points)



(b) If $X = 88$ is a single sample from this distribution then how many standard deviations is this sample from the sample mean? Justify your answer. Plot an interval on the x-axis of the graph below that represents all values of X whose distance from the mean is less than one standard deviation. Show the value of $X = 88$ on the same graph. (3 points)

