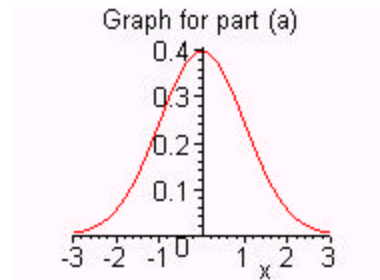
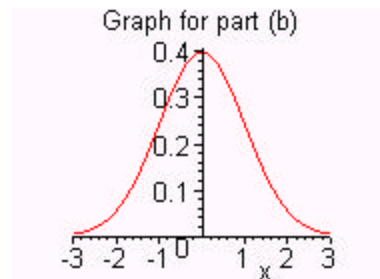


I. Suppose Z is a standard normal random variable. Please find the indicated probabilities and show these probabilities graphically on the graphs of the normal p.d.f.'s below. (4 points each)

(a) $P(Z > -1.75)$



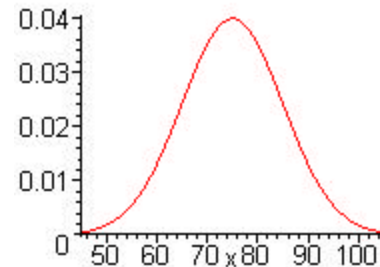
(b) $P(-1.51 \leq Z \leq 0.52)$



(c) Find a number C such that $P(|Z| \geq c) = .0488$

II. Suppose the random variable X has the distribution $N(75,100)$. Please answer the following. (8 points total)

(a) Find $P(65 < X < 90)$. Show the probability graphically on the graph of the p.d.f given below. (5 points)



(b) If $X = 98$ is a single sample from this distribution then how many standard deviations is this sample from the distribution mean? Justify your answer. Plot an interval on the x-axis of the graph below that represents all values of X whose distances from the mean are less than two standard deviations. Show the value of $X = 98$ on the same graph. (3 points)

