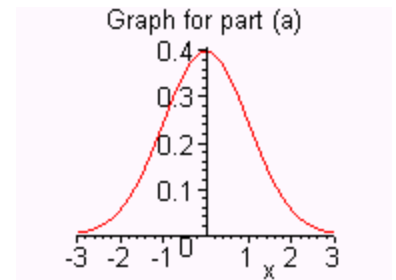


I. Suppose Z is a standard normal random variable. (4 points each, 8 total)

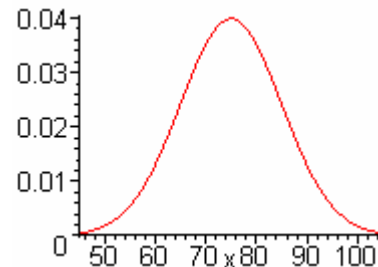
(a) Find $P(Z > -1.65)$ and represent the probability on the graph to the right.



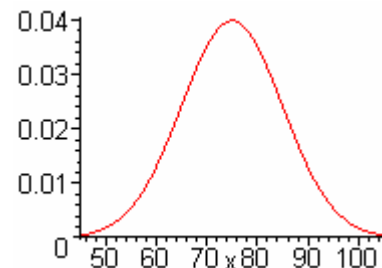
(c) Find a number C such that $P(|Z| \leq c) = .8584$

II. Suppose the random variable X has the normal distribution $N(\mu = 75, \sigma^2 = 100)$. Please answer the following. (9 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 $X = 92$ 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 distance from the mean is at least two standard deviations. (4 points)



III. What is your favorite dish that is served for the Thanksgiving feast at your abode? (3 points)