

Module 3 Review

1. Evaluate the following probabilities based on the standard normal distribution

a $P(z < 2.5) =$ _____

b $P(z > 1.6) =$ _____

c $P(-0.25 < z < 1.4) =$ _____

d $P(z > -0.6) =$ _____

4 On a particular college campus, 20% of the students belong to a fraternity or sorority. If 50 college students are randomly chosen, what is the probability that no more than 10 are members of a fraternity or sorority?

What is the mean and standard deviation of this distribution?

5 Lengths of pregnancies are normally distributed with a mean of 268 days and a standard deviation of 15 days. A baby is considered premature if the pregnancy length is at or below the fourth percentile (P_4) of all pregnancy lengths. Find the length of pregnancy in days that separates the premature babies from those that are not considered premature.

6 The heights of ten-year-old males are normally distributed with a mean of 55.9 inches and a standard deviation of 5.7 inches. If a pediatrician selects a random sample of 40 ten-year-old males from his patient population, what is the probability that the mean height of this sample will be greater than 57 inches?

