

Getting Ready for the Midterm – Chapter 7

Topics

You are responsible for the following:

- Compute normal probabilities.
- Find values associated with normal probabilities. (aka Reverse Normal problems)

Practice Problems

1) The lengths of human pregnancies are normally distributed with a mean of 268 days and a standard deviation of 15 days. Find the probability that a human pregnancy lasts between 254 days and 261 days.

2) The heights of 12-month-old boys are approximately normally distributed with a mean of 29.8 inches and a standard deviation of 1.2 inches. Find the probability that a 12-month-old boy is less than 28 inches tall.

3) IQ scores are approximately normally distributed with a mean of 100 points, and a standard deviation of 15 points. IQ scores are always in whole numbers. Find the probability that a person has an IQ that is at least 120.

4) The heights of 12-month-old boys are approximately normally distributed with a mean of 29.8 inches and a standard deviation of 1.2 inches. What height separates the tallest 33% of all 12-month-old boys from the rest?

5) A statistics final exam produces scores that are approximately normally distributed with a mean of 225 points and a standard deviation of 20 points. There are 300 points possible on the exam, and scores are always whole numbers. Five percent of all students score below what score?

6) The heights of adult males are normally distributed with a mean of 69.0 inches and a standard deviation of 2.8 inches. A builder wants to make the height of his doorways so that only 3% of adult males will have to duck upon entering the room. How high should the doorways be?