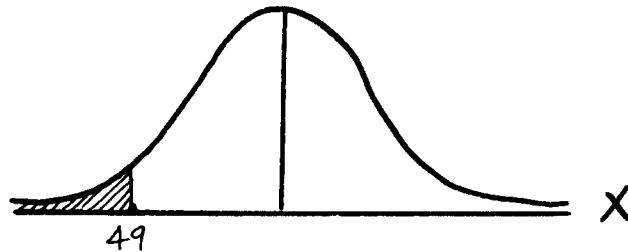


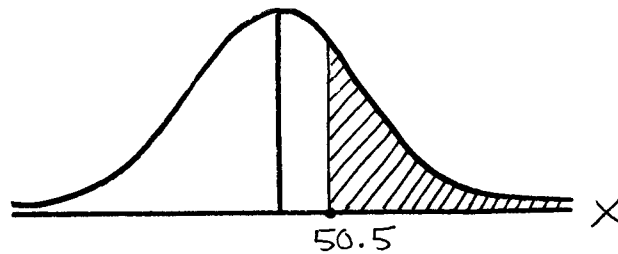
6.2 The weights of a large shipment of bronze castings are a random variable which have a normal distribution with mean 50.25 pounds and standard deviation of 0.63 pounds. What is the probability that casting selected from this shipment will weigh:

- a. less than 49 pounds
- b. more than 50.5 pounds
- c. between 50 and 51 pounds

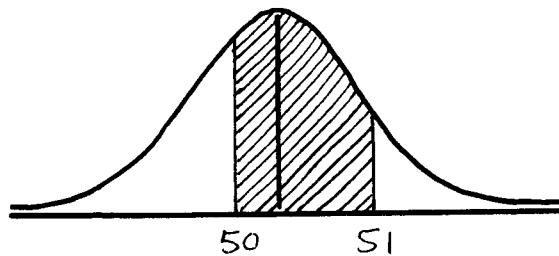
We want to find areas under a normal curve.



(a)  $P(X < 49) = \text{normalcdf}(-1E99, 49, 50.25, 0.63) \approx 0.0236$



(b)  $P(X > 50.5) = \text{normalcdf}(50.5, 1E99, 50.25, 0.63) \approx 0.3457$



(c)  $P(50 < X < 51) = \text{normalcdf}(50, 51, 50.25, 0.63) \approx 0.5373$

STUDY: Chapter 5: Section 5.3  
• Non-Standard Normal Distributions