e.g. (p. 170 #9) The intake valve clearances on new engines of a certain type are normally distributed with mean 200 μm and standard deviation 10 μm.

a. What is the probability that the clearance is greater than 215 μm?

b. What is the probability that the clearance is between 180 and 205 μm?

c. An engine has six intake valves. What is the probability that exactly two of them have clearances greater than 215 μm?

d. (Not in book) Find the clearance, x, such that 99% of clearances are less than x.