QUIZ 2

1. Suppose you have two dice in your pocket, one of which is normal and the other is biased in such a way that, if tossed, it shows "6" 30% of times. You take one die from your pocket randomly without knowing which one it is and flip it. If it turns up "6", what is the chance that it biased?
a. 0.1236
b. 0.6429
c. 0.3571
d. 0.5000
e. None of the above

2. It is known that in a tossing of ten fair dice at least one "1" was obtained. What is the probability of obtaining two or more 1's?
a. 0.845
b. 0.529
c. 0.736
d. 0.615
e. 0.495

3. Given that 10% of the nails made using a certain manufacturing procedure have a length less than 2.48 inches, while 5% have a length greater than 2.54 inches, what are the mean and standard deviation of the lengths of the nails? Assume that the lengths have a normal distribution.
a. μ=2.506, σ=0.0205
b. μ=2.506, σ=0.0410
c. μ=2.516, σ=0.0825
d. μ=2.516, σ=0.1653
e. The mean and standard deviation cannot be computed from the information given.

4. The unemployment rate in a certain city is 16%. A random sample of 200 people from the labor force is drawn. Find the approximate probability that the sample contains not more than 25 unemployed people? Use continuity correction!
a. 0.1151
b. 0.0885
c. 0.1049
d. 0.0740
e. None of the above

5. The weight of a rice bag has normal distribution with the mean of 500g and standard deviation of 4g. What is the likelihood that six rice bags chosen at random will weigh more than 3030g?
a. 0.0010
b. 0.1056
c. 0.8943
d. 0.9989
e. None of the above