NAME:_____

P.I. A2.S.15: Know and apply the binomial probability formula to events involving the terms exactly, at least, and at most

1. A survey shows that 35% of the adults in a community read a local newspaper. Suppose 8 adults from the community are selected. Which probability has the greatest value?

   [A] *P*(between 4 and 7 of the people read a local newspaper)

   [B] *P*(at least 2 of the 8 people read a local newspaper)

   [C] *P*(at most 3 of the 8 people read a local newspaper)

   [D] *P*(exactly 3 of the 8 people read a local newspaper)

2. Compare the quantity in Column A with the quantity in Column B.
   A rare plant has a 30% survival rate after 1 month. Ten plants are selected at random.
   Column A   Column B
    P(exactly 4 plants survive)   *P*(at least 5 plants survive)

   [A] The quantity in Column A is greater.   [B] The quantity in Column B is greater.

   [C] The two quantities are equal.

   [D] The relationship cannot be determined on the basis of the information supplied.

3. Quality control at a factory determined that 95% of the light bulbs produced passed inspection. Find the probability that in a random sample of 5 bulbs no more than two will fail inspection.

4. You work at a T-shirt printing business. 3% of 2800 T-shirts shipped are printed improperly. If you randomly select 100 T-shirts (selecting a T-shirt and replacing it), what is the probability that at least one of them is printed improperly?

   [A] 0.952   [B] 0.948   [C] 0.548   [D] 0.048

[1]   B

[2]   A

[3]   0.9988

[4]   A