1. Use Pascal's Triangle to determine the probability that you will get four red lights in a row of five lights. Assume red and green are equally likely occurrences.

   [A] $\dfrac{5}{32}$ [B] $\dfrac{3}{16}$ [C] $\dfrac{1}{32}$ [D] $\dfrac{5}{16}$

2. 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)

3. You work at a T-shirt printing business. 7% of 4600 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] 0.901   [B] 0.501   [C] 0.001   [D] 0.999

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

5. 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.

6. Use Pascal's Triangle to determine the probability of getting three heads when tossing a coin four times.

7. Use a graphing calculator to enter the function
    $y_1 = $ $\boxed{(}$ 7 $_n C_r$ X $\boxed{)}$ $\boxed{*}$ $.5$ $\boxed{\wedge}$ X $\boxed{*}$ $.5$ $\boxed{*}$ $\boxed{(}$ 7 $\boxed{-}$ X $\boxed{)}$.

8. Game cards are given out at the bank for any deposit made. The probability of winning a prize P is 0.3.
    Make a tree diagram and find the probability of getting two winning cards from three game cards.

9. The probability of a successful outcome in a scientific experiment is 0.37. Suppose the experiment is
    performed 4 times. Construct a histogram for this binomial distribution.

10. 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.
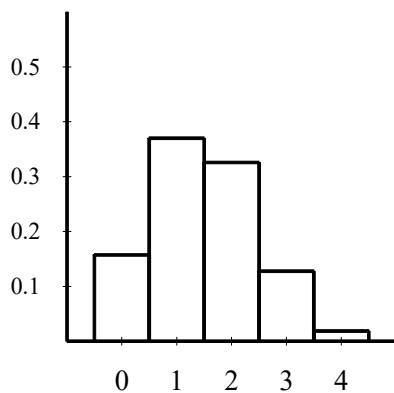
[1] A

[2] B

[3] D

[4] A

[5] A

[6] $\dfrac{1}{4}$

[7] Check students' graphs.

[8] Check students' tree diagrams; 0.189

[9]

[10] 0.9988