FST Name:

Notes 7.6 Date: Block:

***7.6: Pascal’s Triangle and the Binomial Distribution***

Example) A basketball player has a 65% chance of making a 3-point shot. They take five 3-point shots. Complete the distribution table to determine the probability that the play makes 0, 1, 2, 3, 4, or all 5 shots.

n = \_\_\_\_\_\_\_\_\_\_\_\_ p = \_\_\_\_\_\_\_\_\_\_\_\_ q = \_\_\_\_\_\_\_\_\_\_\_\_

$P\left(X=k\right)=$

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| # shots made | 0 | 1 | 2 | 3 | 4 | 5 |
| 5Ck |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

What is the probability that the player makes exactly three out of five 3-pointers?

What is the probability that the player makes **at least** 3, 3-pointers?

Example) A surfer has a 27% chance of riding a wave each time they paddle out and attempt to stand. The surfer makes 6 attempts to ride a wave. Complete the distribution table below to determine the probability that the surfer catches an even number of waves.

n = \_\_\_\_\_\_\_\_\_\_\_\_ p = \_\_\_\_\_\_\_\_\_\_\_\_ q = \_\_\_\_\_\_\_\_\_\_\_\_

$P\left(X=k\right)=$

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| # of waves | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| 6Ck |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |