Name: _____ Hour: _____ Date: _____

Lesson 6.3: Day 2: Will the EKHS girls' soccer team win?

When the time runs out in a soccer game and the score is tied, the game will go to a shootout. Each team gets to choose 5 players to kick penalty kicks. Whichever team makes the most penalty kicks wins. If the EKHS girls' soccer team makes 60% of their penalty kicks, what are the chances they will win the game?

1. Is this a binomial setting? Explain.

2. Fill in the table below showing the probability of making X penalty kicks.

Goals (X)	0	1	2	3	4	5
Probability						

3. Find and interpret the mean of the probability distribution. Show your work.

4. Find and interpret the standard deviation of the distribution.

5. What is the probability that the team scores at least one goal?

6. If the other team is expected to make 3 goals, what is the probability that the EKHS girls' team wins?

Lesson 6.3 Day 2– Describing Binomial Distributions

Important ideas:

Check Your Understanding

Mr. Miller's class is very difficult. It's so hard that when he gave a pop quiz recently, the students just guessed on every question! Each student in the class guesses an answer from A through E on each of the 10 multiple-choice questions. Hannah is one of the students in this class. Let Y = the number of questions that Hannah answers correctly.

1. Does this setting represent a binomial distribution? Explain.

2. Use technology to make a histogram of the probability distribution of Y. Describe its shape.

3. Calculate and interpret the mean of Y.

4. Calculate and interpret the standard deviation of Y.

TheStatsMedic