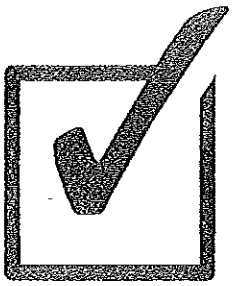
CLASSWORK

Name _____

Date _____

Period _____



Check for Understanding

Scenario: Nathan is your school's star soccer player. When he takes a shot on goal, he scores half of the time on average. Suppose that he takes 6 shots in a game. To estimate probabilities of the number of goals Nathan makes, use simulation with a number cube. One role of a number cube represents one shot.

1) Describe what outcome of a number cube you want to represent a goal scored by Nathan in one shot.

2) For this problem, what represents a trial of taking 6 shots?

3) Perform and list the results of 10 trials of this simulation.

1. ____, ____, ____, ____, ____, ____
2. ____, ____, ____, ____, ____, ____
3. ____, ____, ____, ____, ____, ____
4. ____, ____, ____, ____, ____, ____
5. ____, ____, ____, ____, ____, ____
6. ____, ____, ____, ____, ____, ____

7. ____, ____, ____, ____, ____, ____

8. ____, ____, ____, ____, ____, ____

9. ____, ____, ____, ____, ____, ____

10. ____, ____, ____, ____, ____, ____

d) Identify the number of goals Nathan made in each of the 10 trials you did.

e) Based on your 10 trials, what is your estimate of the probability that Nathan scores three goals if he takes 6 shots in a game?

7) Suppose that Patrick, another soccer player, scores 40% of the shots he takes in a game. What would one simulated trial look like if you used a number cube in your simulation?

Describe the simulation:

1 simulated trial: ____, ____, ____, ____, ____, ____