Lesson 5.1: Day 1: How good is Mrs. Gallas at free throws?
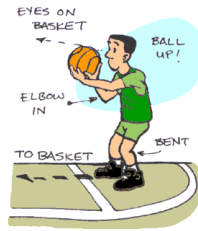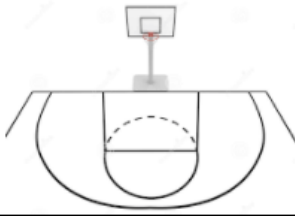
Mrs. Gallas thinks she is a pretty good free throw shooter. How many free throws would you like to see Mrs. Gallas shoot before you could be confident guessing her free throw percentage? We'll watch Mrs. Gallas shoot free throws, when you are confident make a guess at her free throw percentage.

1. As each shot is attempted, keep track of the number of made free throws and the total number of shots attempted in the table below. When you think you know Mrs. Gallas' true free throw percentage, stop recording the shots.

Shot #	1	2	3	4	5	10	15	20	30	40	50	60	70	80
Result (Make or Miss)														
Proportion of Makes														

2. What do you think Mrs. Gallas' true free throw percentage is?

3. Sketch the graph displaying the proportion of made free throws.

4. How could you make your guess more accurate?

5. Mrs. Gallas has a _____% probability of making a free throw. Interpret this probability.

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Lesson 5.1 Day 1– The Idea of Probability

Important ideas:

Check Your Understanding

1. Pedro drives the same route to work on Monday through Friday. His route includes one traffic light. According to the local traffic department, there is a 55% probability that the light will be red when Pedro reaches the light. Interpret the probability.

2. Probability is a measure of how likely an outcome is to occur. Match one of the probabilities that follow with each statement. Explain your answers to your neighbor.

   0   0.001   0.3   0.6   0.99   1

   (a) This outcome is impossible. It can never occur.

   (b) This outcome is certain. It will occur on every trial.

   (c) This outcome is very unlikely, but it will occur once in a while in a long sequence of trials.

   (d) This outcome will occur more often than not.

3. A husband and wife decide to have children until they have at least one child of each sex. The couple has had seven girls in a row. Their doctor assures them that they are much more likely to have a boy next. Explain why the doctor is wrong.

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