Table Number:_____   Group Name: _____

Group Members:_____   _____   _____

Reese's Pieces Part 4

Part 4: Examine the Role of Sample Size

Next we consider what will happen to the distribution of sample statistics if we change the number of candies in each sample (change the sample size).

Make a Conjecture

1. What do you think will happen to the distribution of sample proportions if we change the sample size to 50? Explain.

2. What do you think will happen if we change the sample size to 100? Explain.

Test your conjecture. Set the number of samples (*num samples)* in the applet to 500.

        A. Keep the "*sample size"* in the Reese's Pieces applet at 25.
        B. Change the "*sample size"* in the Reese's Pieces applet to 50.
        C. Change the "*sample size"* in the Reese's Pieces applet to 500.
        D. Change the "*sample size"* in the Reese's Pieces applet to 5.

3. As the ***sample size*** increases, what happens to the spread of the distribution?

4. Now, describe the effect of sample size on the distribution of sample statistics in terms of shape, center and spread.

When we generate sample statistics and graph them, we are generating an estimated ***sampling distribution***, or a distribution of the sample statistics. It looks like other distributions we have seen of raw data.

Reference

Rossman, A., & Chance, B. (2002). A data-oriented, active-learning, post-calculus introduction to statistical concepts, applications, and theory. In B. Phillips (Ed.), *Proceedings of the Sixth International Conference on Teaching of Statistics,* Cape Town. Voorburg, The Netherlands: International Statistical Institute. Retrieved September 28, 2007, from
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