Statistics 13   **Instructor: Nicolas Christou**

Dice experiment

Please access the "Dice Experiment" in SOCR.
Select $n = 3$ fair dice.

1. Construct (by hand) the probability distribution of the sum (Y) of the three dice. Run the experiment 1000 times to verify your answer.

2. Construct (by hand) the probability distribution of the maximum (V) of the three dice. Compute the mean and standard deviation of V and verify you answer from the applet. Run the experiment 1000 times to see that the empirical distribution is very close to the theoretical distribution of V.

3. Construct (by hand) the probability distribution of the average (M) of the three dice and compare your distribution to the one in the applet.