

**Some examples of binomial probability,
and polynomial probability.
These may relate to something we've
done (built) earlier.**



**Suppose we flip four fair coins. Analyze the probabilities of the
various outcomes.**



Suppose we roll four fair dice. These are standard six faced dice numbered from one through six.

Compute the probabilities of rolling various numbers of sixes.



Suppose its a game of chance played for money and it costs \$3 to play and we win \$27 for rolling four “6’s”. Compute the expected value and determine if the game is in favor of the player or the house.

Suppose we roll six dice (maybe we're farkleing) and let's compute the probability of rolling exactly two 1's, two 5's, and two of anything else.

Can we all just say "pascal's pyramid".



MrD's Marbles.

MrD's marbles is a game of chance played for (monopoly) money. Five blue marbles, four yellow marbles, and three red marbles are placed in a container. The player pays \$2 to play the game. The player has to decide if they want all three to be the same, or all three different. They place their marker on "same" or "different". MrD shakes his marbles. The player selects three marbles, . . . and . . . there is a winner every time! Which strategy (same or different) is better and what is the expected value of each?

