

Bellwork Monday, May 5, 2014

1. In an election, there are four candidates for mayor, five candidates for city treasurer, and 8 candidates for judge.

a) How many ways can voters mark their ballots if they can only vote for one of each?

$$\frac{4}{4^1} \cdot \frac{5}{5^1} \cdot \frac{8}{8^1} = 160$$

b) How many ways can they mark their ballot if you can vote for 3 judges?

$$\frac{4}{4^1} \cdot \frac{5}{5^1} \cdot \frac{56}{8^3} = 1120$$

3. A charity is running a raffle. They will sell 100 tickets for \$10 each. There will be one winner for each of the \$100, \$50, and \$10 prizes. How many ways can these prizes be awarded?

$$100P_3 = 970,200$$

2. You join a CD club. As a new member you are allowed to choose any 5 CD's for free. Any CD after that is \$10. If there is a list of 30 CD's to choose from, how many ways can you pick the 5 free CD's?

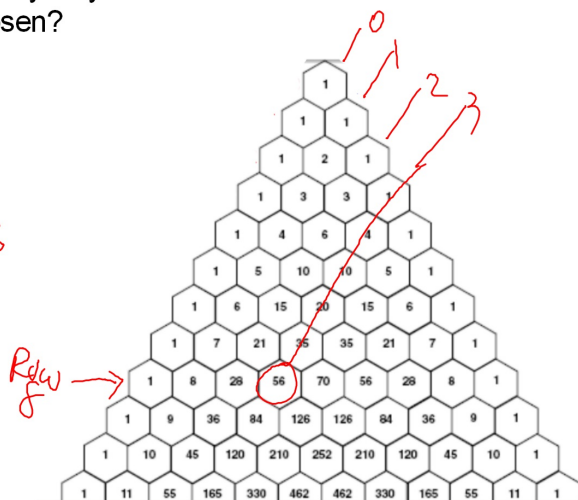
$${}_{30}C_5 = 142,506$$

4. In a production of Grease, there are eight actors considered for the male roles of Danny, Kenickie, and Marty. In how many ways can the director cast the male roles?

$$8P_3 = 336$$

5. The board of directors of a corporation has 8 members. How many ways can a committee of 3 members be chosen?

8
Row = 56
DIAG



6. The numbers from 1 to 30 are placed in a hat and one number is selected at random. Find each of the probabilities as a percent rounded to the nearest tenth.

a) $P(\text{Multiple of 6}) = \frac{5}{30} = 16.7\%$

b) $P(\text{Factor of 18 and Odd}) = \frac{3}{30} = 10\%$

c) $P(\text{Multiple of 5 or Multiple of 4}) = \frac{12}{30} = 40\%$