

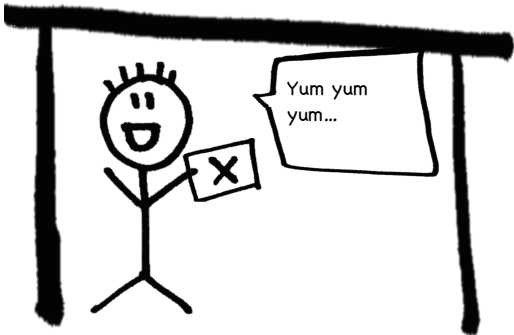
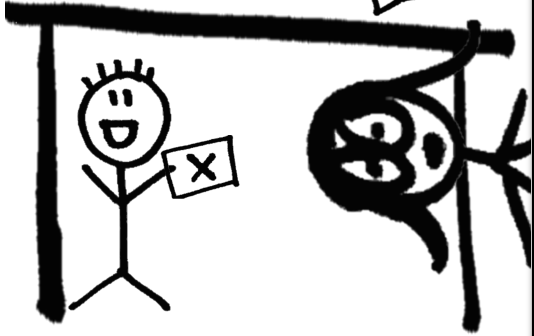


Hypergeometric Distribution

by Alice Curtis and Lucy D'Agostino McGowan

 <p>I'm hungry...I am choosing to eat some candy! I don't care if it's almost dinner time! Nanny will never catch me!</p>	 <p>Marvin! You better not be eating that candy before dinner. Don't you dare get your brother Kevin into that!</p>	 <p>Yum yum yum...</p>
 <p>KEVIN! I see you in there. I'm going to choose to ignore that you deliberate disobeyed me.</p>	<p>RECAP!</p> <p>If Marvin chooses to eat some candy, let's call it x:</p> <p>The nanny will definitely catch him, and Kevin will catch the candy:</p> $\binom{M}{x}$ <p>And after all of that Kevin will still hang out under the table, but the Nanny will choose him again!</p> $\binom{N-M}{K-x}$	<p>And the moral of the story is:</p> $\frac{\binom{M}{x} \binom{N-M}{K-x}}{\binom{N}{K}}$ <p>And if you don't listen to your nanny, you will have to set the table, while she eats your candy underneath:</p> $Expectation = \frac{NM}{N}$