Name: _____

1. There are 7 cans of cola: 3 regular colas and 4 diet colas. If 3 cans of cola are selected at random, what is the probability that all 3 are regular colas?

   Solution: Our experiment is selecting 3 cans of cola from 7, so

   $$n(S) = C(7,3) = \frac{7 \times 6 \times 5}{3 \times 2} = 35.$$

   Let E be the event that all the 3 cans selected are regular. As there are 3 regular colas in total, the number of ways to choose 3 regular colas from those 3 will be $C(3,3) = 1$. That is, $n(E) = 1$.

   So

   $$\Pr[E] = \frac{n(E)}{n(S)} = \frac{1}{35}.$$

$\diamond$ End of Quiz $\diamond$