

16. Calculating Geometric probabilities on the calculator

There are two handy commands on the TI-Nspire for finding geometric probabilities:

`geomPdf (p, k)` computes $P(Y = k)$

`geomCdf (p, k)` computes $P(Y \leq k)$

You will need to open the *Calculator Scratchpad* (press $\left[\frac{\square}{\square} \right]$ or $\left[\frac{\square}{\square} \right]$ on **[A]**). These two commands can be found in the *Distributions* menu within the *Statistics* menu. You can access them by pressing $\left[\text{menu} \right] \rightarrow \text{Statistics} \rightarrow \text{Distributions}$. A dialogue box will appear asking for your input. Type p (probability of success) and k (number of trials to get the first success).

Geometric Pdf

Geometric Cdf

For the Lucky Day Game, with probability of success $p = 1/7$ on each trial:

$$P(Y = 10) = \text{geomPdf}(1/7, 10) = 0.0357$$

To find $P(Y < 10)$, use `geomCdf` :

$$P(Y < 10) = P(Y \leq 9) = \text{geomCdf}(1/7, 9) = 0.7503$$

TI-Nspire Technology Corners

