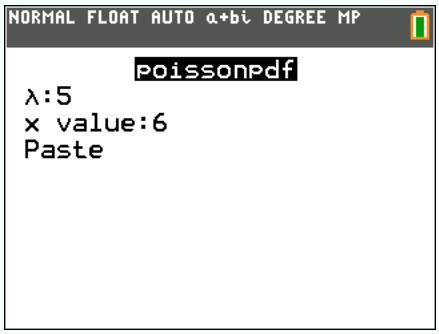
4.15 Poisson distribution

4.15.1 Compute $\mathbf{P}(X = a)$

Consider $X \sim \text{Po}(5)$. Say you want to know $\mathbf{P}(X = 6)$.

Press 2nd , distr vars , `poissonpdf(` and fill the parameters as follows:

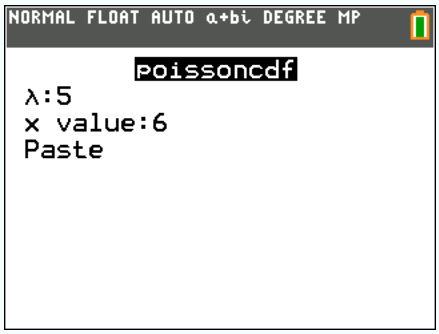


Pres `Paste` and entry solve enter . The result should be 0.146 (rounded).

4.15.2 Compute $\mathbf{P}(X \leq a)$

Consider $X \sim \text{Po}(5)$. Say you want to know $\mathbf{P}(X \leq 6)$.

Press 2nd , distr vars , `poissoncdf(` and fill the parameters as follows:



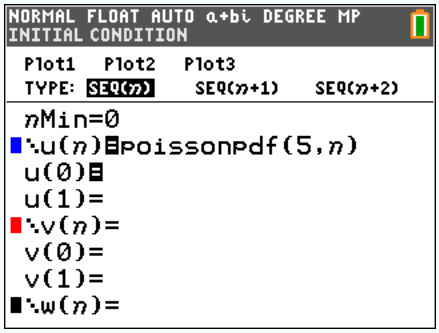
Pres `Paste` and entry solve enter . The result should be 0.762 (rounded).

4.15.3 Graph a Poisson distribution

Consider $X \sim \text{Po}(5)$. Suppose you want to graph it.

① Since a Poisson distribution can only have integers values, put your calculator in sequence mode (press quit mode and highlight SEQ, 4^{th} line).

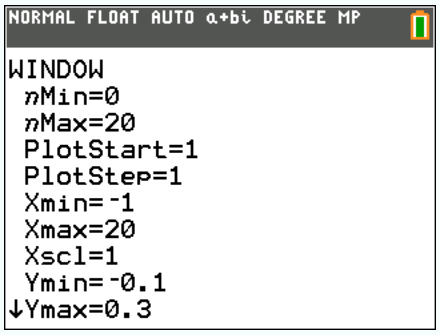
② Press stat plot f1 y= , and fill the parameters as follows:



see 4.15.1 to enter `poissonpdf(`,

and press link X,T,θ,n for `x value`

③ Choose a proper window :



Press tblset f2 window to access this screen

④ Press table f5 graph . The following should display: