

Finding Binomial Sample Size using CAS Calculator – Graphs and Tables Method

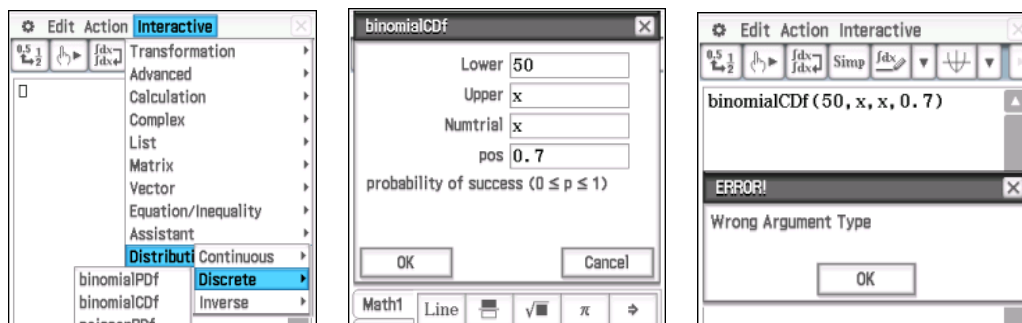
Using Question 7 Exercise 14 C

Monique is practising goaling for netball. She knows from past experience that her chance of making any one shot is about 70%. Her coach has asked her to keep practising until she scores 50 goals. How many shots would she need to attempt to ensure that the probability of scoring at least 50 goals is more than 0.99?

$$n = ? \quad \text{use } x \quad p = 0.7$$

$$\text{We want } \Pr(X \geq 50) > 0.99$$

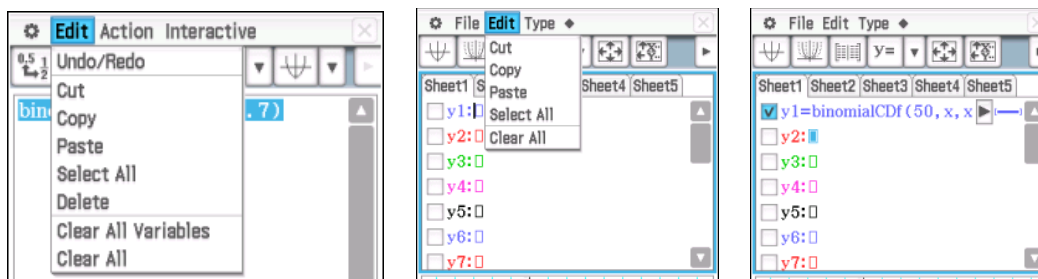
Calculator → Main → Interactive → Distribution/Inv.Dist → Discrete → binomialCDF





Don't worry about the error message. We want the expression.

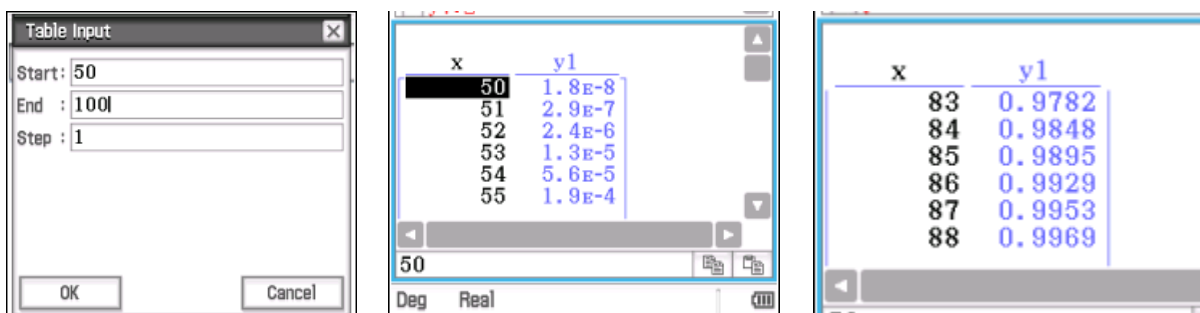
Highlight the expression. Go to Edit → Copy.

Then Graphs and Tables. Then Edit → Paste → EXE to paste expression in y1



Now tap on the  icon. Enter Start at 50 (our minimum value), End 100 (not critical, just need to go far enough). Tap OK.

Now tap on the Table Icon . Scroll down until the number in the y1 column is > 0.99



Thus she will need to take at least 86 shots to ensure she makes at least 50.