### Overview

In this activity, you will create a table and graph for a binomial distribution for a given sample size and given probability of success.

Materials
• *TI-84 CE™ handheld or TI-84 Smart View Computer Software*

Part 1—Prep

1. Press **Stat > Edit**. You will add a new column by pressing **2nd > Del (Ins)**. Press **2nd > Alpha** and name the column **S** for successes. Repeat this process and name the second column **PDF**.
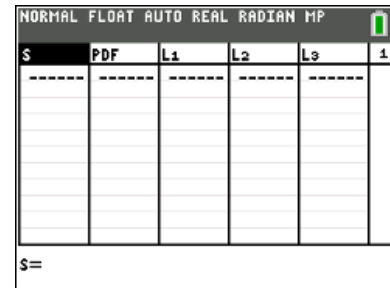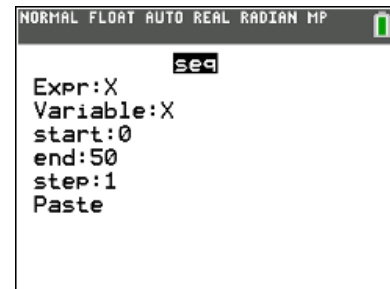
Note: To obtain capital letters on the handheld, press the **Alpha** key, then the letter.

Part 2—Creating a Table for Binomial Distribution

2. Move the cursor to the top cell for the Column labeled **S**, and press **2nd > Stat > OPS > 5: seq(**. Fill in the template with **(x, x, 0, 50, 1)**.
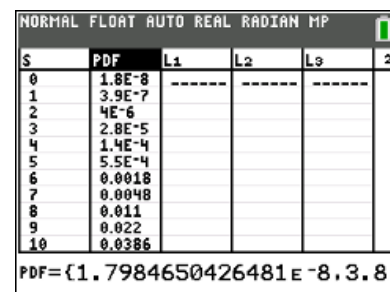
Press enter to create a list of integers from 0 to 50 progressing in steps of 1.

Assume that you have 50 binomial trials, where the probability of success is 0.30.

3. Move the cursor to the top cell for the Column labeled **PDF,** and press **2nd > Vars > A: binompdf(** . Fill the template with **(50, 0.30, S).**
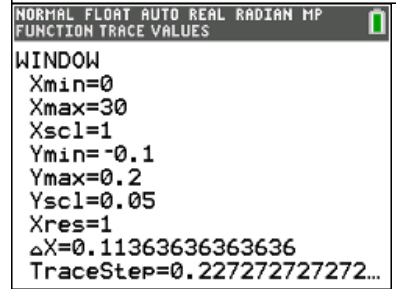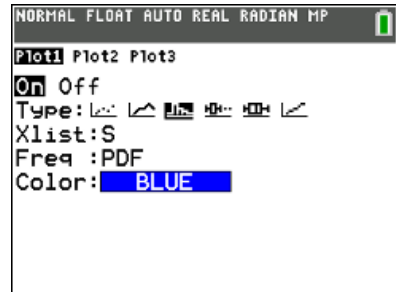
Note: When filling in the template and using the data from the first column, make sure to press **2nd > Stat** to see the list names (**S**).
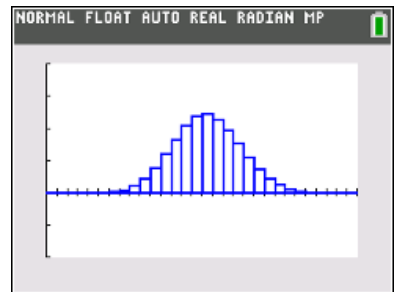
Press enter to create a binomial distribution for integers from 0 to 50 where the probability of a success is 0.30.

Part 3—Creating a Graph of a Binomial Distribution

4. Press **2ⁿᵈ > Y = >** ⌐enter⌐ to open the stat plot. Turn the plot on, select the histogram, select **S** for the **XList**, and **PDF** for the **Freq**. You choose the color.

```
NORMAL FLOAT AUTO REAL RADIAN MP    []
Plot1 Plot2 Plot3
On  Off
Type: ⌐ ⌐ ⌐ ⌐ ⌐ ⌐
Xlist:S
Freq :PDF
Color:   BLUE
```

5. Press **Window** and change your settings to what you see to the right. Press **Graph**.

```
NORMAL FLOAT AUTO REAL RADIAN MP    []
FUNCTION TRACE VALUES
WINDOW
 Xmin=0
 Xmax=30
 Xscl=1
 Ymin=-0.1
 Ymax=0.2
 Yscl=0.05
 Xres=1
 ⌐X=0.11363636363636
 TraceStep=0.227272727272…
```

The screen to the right shows the resulting graph of a binomial distribution.

```
NORMAL FLOAT AUTO REAL RADIAN MP    []
```

6. **Students**: Go to the Binomial Pdf Eye Color worksheet, and follow your teacher's directions to answer the questions.