

## Chapter 11 / **Example 15**

### Calculating cumulative binomial probabilities

Using example 14, find the probability that the courier delivers the package before 9.00 am at least five times during the week.

Assuming  $X \sim B(7, 0.7)$

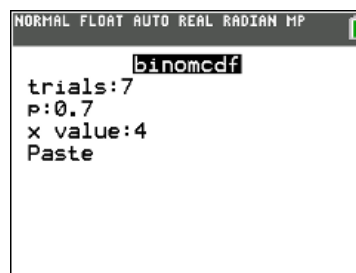
The binomial CDF function on the TI-84 Plus C finds the probability that  $X$  is less or equal to the given value.

To find  $P(X \geq 5)$  calculate  $1 - P(X \leq 4)$ .

Type 1 - and press **2nd** **vars** (**[distr]**) B:binomcdf(

Enter 7 as the number of trials, 0.7 as the probability of success and 4 as the X value.

Navigate down to Paste and press **enter**.



NORMAL FLOAT AUTO REAL Radian MP

**binomcdf**

trials:7

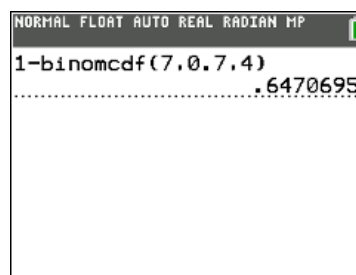
p:0.7

x value:4

Paste

Press **enter**.

The GDC displays the solution  $P(X \geq 5) = 0.647$ .



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1-binomcdf(7,0.7,4)

.....0.6470695