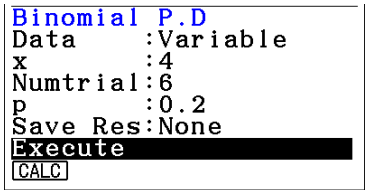
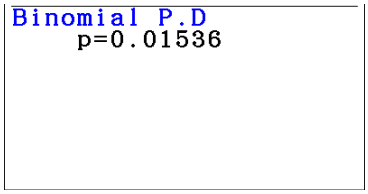
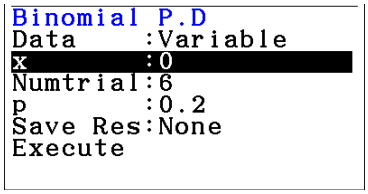
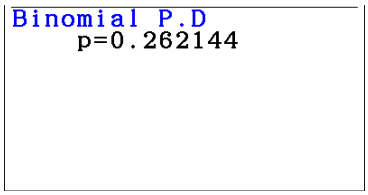
Chapter 14 / **Example 4**

Calculating binomial probabilities

X is a binomially distributed discrete random variable which represents the number of successes in six trials. The probability of success in each trial is $\frac{1}{5}$.

What is the probability of

a exactly four successes **b** at least one success?

Press MENU 2 STAT to display the List Editor screen. Press F5 DIST F5 BINOMIAL F1 Bpd Choose F2 List Enter 4 as the value of x, 6 as Numtrial, 1 ÷ 5 as p Choose F1 None to save the result. Navigate down to Execute and press EXE.	
The GDC displays the solution $P(X = 4) = 0.01536$.	
Press EXIT Leaving other values the same, change x to 0. Navigate down to Execute and press EXE.	
Navigate down to Execute and press EXE.	
Press MENU 1 RUN·MAT to display the Run-Matrix screen for arithmetical calculations. Type 1 − Press VARS F3 STAT F6 RESULT F3 DIST F1 p Press EXE The GDC displays the solution $P(X \geq 1) = 1 - P(X = 0) = 0.738$.