

## TI-83 PROGRAM THAT COMPUTES CUMULATIVE HYPERGEOMETRIC PROBABILITIES

Select PRGM to get the program menu. Then select NEW to create a new program. You must first give a program name.

Comments, which should not be entered into the calculator, are set off by the symbol %.

**NAME: HGEOMCDG**

**: 0 STO→ F**                                   % ‘STO→’ is right above the ‘ON’ button.  
**: Disp “N”**                                   % ‘Disp’ is accessed via PRGM, I/O when you are writing or editing a program.  
**: Input N**                                    % ‘Input’ is accessed via PRGM, I/O when you are writing or editing a program.  
**: Disp “N1”**  
**: Input M**  
**: Disp “LTL N”**  
**: Input S**  
**: Disp “K”**  
**: Input K**  
**: For(R,0,K,1)**                            % ‘For(’ is accessed via PRGM, CTL when you are writing or editing a program.  
**: F + M nCr R\*(N-M) nCr (S-R)/N nCr S →F**                                   % ‘nCr’ is found under MATH, PRB (select 3).  
**: End**                                        % ‘End’ is accessed via PRGM, CTL when you are writing or editing a program.  
**: Disp F**                                    % ‘Disp’ is accessed via PRGM, I/O when you are writing or editing a program.

If you want to make changes to your program, select PRGM, move to EDIT, and then select the number of the program you want to edit.

Let’s use this program to solve Exercise 6.27: A store has 16 delivery trucks, 5 have work brakes. If 3 of the trucks are selected randomly for regular maintenance, what is the probability that at least one of the selected trucks will have work brakes? Select the program, enter the population size 16 when prompted for N, enter 5 when prompted for N1, enter 3 when prompted for LTL N, and enter 0 when prompted for K. This will compute  $\Pr(K \leq 0) = .2946428571$ . The answer to the question will be  $\Pr(K \geq 1) = 1 - \Pr(K \leq 0) = 1 - .2946428571 = 7053571429$ .

To further test this program, enter 16 for N, 5 for N1, 3 for LTL N, and 2 for K. The output should be .9821428571.

