

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?

Open a new document and add a Calculator page.

Press **menu** 5:Probability | 5:Distributions | A:Binomial Pdf...

Enter 6 as the number of trials,  $\frac{1}{5}$  as the probability of success (type  $1 \div 5$ ) and 4 as the X value.

Press **enter** or click OK with the touchpad.

The GDC displays the solution  $P(X = 4) = 0.01536$ .

Type  $1 -$

Press **menu** 5:Probability | 5:Distributions | A:Binomial Pdf...

Enter 6 as the number of trials,  $\frac{1}{5}$  as the probability of success (type  $1 \div 5$ ) and 0 as the X value.

Press **enter** or click OK with the touchpad.

The GDC displays the solution  $P(X \geq 1) = 1 - P(X = 0) = 0.737856$ .