1 Lesson 11 Example 1

Continuing with the example from the lesson, let Y be the number of Jacks among the community cards. Calculate and graph the c.d.f. of Y.

2 Answer

2.1 p.m.f. of Y

From Lesson 10, we know the probabilities for each Y:

- $P(Y = 0) \approx 0.8005$
- $P(Y = 1) \approx 0.1906$
- $P(Y = 2) \approx 0.0089$

2.2 c.d.f. of Y

Let Y be the number of Jacks among the community cards. The c.d.f. $F(y)$ is calculated as follows:

- $F(0) = P(Y \leq 0) = P(Y = 0) = 0.8005$
- $F(1) = P(Y \leq 1) = P(Y = 0) + P(Y = 1) = 0.8005 + 0.1906 = 0.9911$
- $F(2) = P(Y \leq 2) = P(Y = 0) + P(Y = 1) + P(Y = 2) = 0.8005 + 0.1906 + 0.0089 = 1.0$

2.3 Graph of the c.d.f. of Y