

RATES 0.2, 0.4, 0.7 PER MINUTE

→ WHAT IS PROB. OF NO REQUESTS NEXT 2 MINS?

SOLUTION

$$\text{POISSON}(0; (0.2 + 0.4 + 0.7) \cdot 2) = e^{-1.3 \cdot 2} = 0.0742$$

→ 6 REQUESTS RECEIVED IN 2 MINS.

WHAT IS PROB OF TWO REQUESTS OF EACH TYPE?

SOLUTION: MULTINOMIAL $\left((2, 2, 2); 6, \left(\frac{0.2}{1.3}, \frac{0.4}{1.3}, \frac{0.7}{1.3} \right) \right)$

$$= \frac{6!}{2! 2! 2!} \left(\frac{0.2}{1.3} \right)^2 \left(\frac{0.4}{1.3} \right)^2 \left(\frac{0.7}{1.3} \right)^2 = \underline{0.0585}$$