

The given daily newspaper data follows a poisson distribution with variance, $var(x) = 1.2$ for the number of error occurrences x .

We know,

for a poisson probability distribution, $E(x) = var(x) = m$

\therefore Expected value or mean number of errors on a page, $m = 1.2$

(a) probability of the number of errors in a page two being 2,

$$f(x = 2) = \frac{e^{-m} \cdot m^x}{x!} = \frac{e^{-1.2} \cdot (1.2)^2}{2!} = 0.217$$

(approx.)

(b) probability of occurrence on page four,

$$\begin{aligned} 0 \text{ error: } f(x = 0) &= \frac{e^{-m} \cdot m^x}{x!} = \frac{e^{-1.2} \cdot (1.2)^0}{0!} = 0.301 \quad (\text{approx.}) \\ 1 \text{ error: } f(x = 1) &= \frac{e^{-m} \cdot m^x}{x!} = \frac{e^{-1.2} \cdot (1.2)^1}{1!} = 0.361 \quad (\text{approx.}) \\ 2 \text{ error: } f(x = 2) &= \frac{e^{-m} \cdot m^x}{x!} = \frac{e^{-1.2} \cdot (1.2)^2}{2!} = 0.217 \quad (\text{approx.}) \\ 3 \text{ error: } f(x = 3) &= \frac{e^{-m} \cdot m^x}{x!} = \frac{e^{-1.2} \cdot (1.2)^3}{3!} = 0.087 \quad (\text{approx.}) \end{aligned}$$

\therefore