In-class problem linked to lecture pages 117-126

What is the ratio of $P_N(n = \overline{n} \pm \sigma)$ to $P_N(n = \overline{n})$?

In-class problem, linked to 117-126

$$P(n) = \frac{1}{\sqrt{2\pi}\sigma} e^{-(n-\bar{n})^2/2\sigma^2}$$

$$\frac{P(\bar{n}\pm\sigma)}{P(\bar{n})} = \frac{\frac{1}{\sqrt{2\pi}\sigma} e^{-(\bar{n}\pm\sigma-\bar{n})^2/2\sigma^2}}{\frac{1}{\sqrt{2\pi}\sigma} e^{-(\bar{n}-\bar{n})^2/2\sigma^2}}$$

$$= e^{-\frac{1}{2}} = 0.607$$