Using Bayes' theorem to the solve this question.

$$P_K(x) = \frac{\pi_K \left(\frac{1}{\sqrt{2\pi}\sigma} \exp\left(\frac{-1}{2\sigma^2} (x-\mu_K)^2 \right) \right)}{\sum_{k=1}^{K} \pi_l \frac{1}{\sqrt{2\pi}\sigma} \exp\left(\frac{-1}{2\sigma^2} (x-\mu_l)^2 \right)}$$

$$= \frac{\pi_K \left(\frac{1}{\sqrt{2\pi}\sigma} \exp\left(\frac{-1}{2\sigma^2} (x-\mu_K)^2 \right) \right)}{\pi_K \frac{1}{\sqrt{2\pi}\sigma} \exp\left(\frac{-1}{2\sigma^2} (x-\mu_l)^2 \right) + (1-\pi_K) \frac{1}{\sqrt{2\pi}\sigma} \exp\left(\frac{-1}{2\sigma^2} (x-\mu_l)^2 \right)}$$

$$= \frac{0.8 \exp\left(-\frac{1}{2\times 36} (4-10)^2 \right)}{0.8 \exp\left(\frac{-1}{2\times 36} (4-10)^2 \right) + (1-0.8) \exp\left(\frac{-1}{2\times 36} (4-0)^2 \right)}$$

$\Rightarrow 0.7518$

$= 75.18\% \simeq 75.2\%$