5. [4 points]
Let α and β be constants such that

- $\ln(\alpha) = 2$
- $\ln(\beta) = 5$

Find the value of $\ln(\alpha^6 \beta^{-3} e^{25})$. Your answer should **not** include α, β, or ln.

$$\ln(\alpha^6 \beta^{-3} e^{25}) = \underline{\hspace{3cm}}$$

6. [6 points] Let $P(x)$ be a polynomial with the following properties:

- $P(x)$ only has zeros at $x = -3, -1, 2$
- $P(x)$ has degree 4

- The graph of $P(x)$ passes through the points $(-4, -36)$ and $(-2, -8)$

Find a formula for $P(x)$. You do not need to simplify your answer.

$$P(x) = \underline{\hspace{5cm}}$$