Write a linear factorization of the function.
$$f(x) = x^4 + 36x^2$$

Solution.
$$f(x) = x^4 + 36x^2 = x^2(x^2 + 36) = x^2(x + 6i)(x - 6i)$$

Answer: $f(x) = x^2(x + 6i)(x - 6i)$.