Practice Quiz

1. Does $(x^3 + y^3)^{1/3} = x + y$ for all x, y?

2. Does $p(x) = q(x)$, where $p(x) = (x - 1)(x + 2)(x - 3)(x + 4)$, and $q(x) = x^4 + 2x^3 - 13x^2 - 14x + 26$?

3. Expand and simplify $f(x, y) = (x - y)(x^3 + x^2 y + x y^2 + y^3)$.

4. Evaluate
$$\lim_{x \to 2} \frac{x^4 - 16}{x - 2}$$
if it exists. If it does not, explain why.

5. Can k be chosen so that
$$f(x) = \begin{cases} (x^4 - 16)(x - 2) & x \neq 2 \\ k & x = 2 \end{cases}$$
is continuous? If so, what value? If not, why?