

This quiz is worth 10 points and you have 10 minutes to complete it. Show all work and circle your final answers.

Calculators are NOT allowed today.

1. (3 pts) If $f(x) = (\sqrt[3]{x} - \frac{1}{x^4})^2$, find $f'(x)$.

2. (7 pts) If $f(x) = \frac{x^4 - 2x^3 + x^2}{x^2 - 1}$, find:

- (a) Any roots of $f(x)$.
- (b) Any vertical asymptotes of $f(x)$.
- (c) Any holes in the graph of $f(x)$.
- (d) The equation of the curve asymptote for $f(x)$.