
Name: _____

Give an answer. Show all work. No calculators are allowed.

1. Let $f(x) = x^3 + x + 4$. Compute and simplify

$$\frac{f(x) - f(2)}{x - 2}$$

(meaning: you're done when you have a single polynomial, not a rational function)

2. Using the first problem (and the results on polynomials and constants we already know), compute

$$\lim_{x \rightarrow 2} \frac{f(x) - f(2)}{x - 2}$$

where f is as above.

3. Compute

$$\lim_{x \rightarrow 4} \frac{x - 4}{\sqrt{x} - 2}$$