

Name: _____

NO CALCULATORS

1. [5 points] What is the formal definition of the limit

$$\lim_{x \rightarrow a} f(x) = L?$$

2. [5 points] Using only the formal definition of limits prove that

$$\lim_{x \rightarrow 3} 2x + 1 = 7.$$

3. [5 points] What is the domain of $f(x) = \sqrt{x^2 - 3}$?
4. [5 points] Graph two full cycles of $y = 5 \sin 2x$. Label the zeros.
5. [5 points] Graph $y = \frac{2x + 1}{x - 3}$. Label the intercepts and asymptotes.
6. [5 points] Compute $\tan(\cos^{-1} 0.7)$.