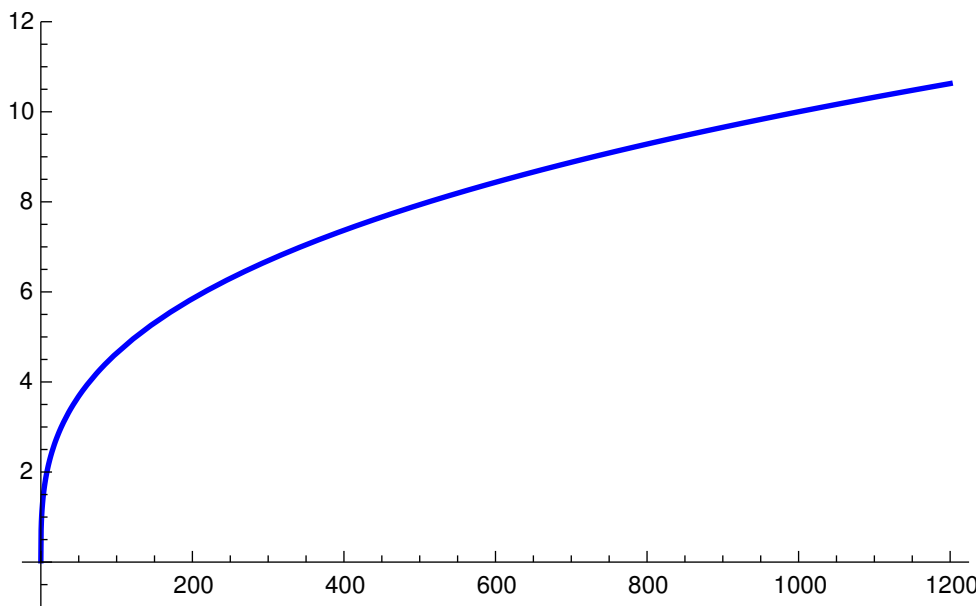


INTRODUCTION TO CALCULUS

MATH 1A

UNIT 11: WORKSHEET

Problem 1: The following graph shows the cube root function $f(x) = x^{1/3}$. Locate the point $a = 512$, its value $f(a)$ and draw the linearization of f at a . How close to you estimate the error $f(600) - L(600)$ just by looking at the graphs? Can you compute the difference explicitly?



Problem 2: Estimate $\sqrt{150}$ using linear approximation at $a = 144$?

Problem 3: Estimate $\ln(2)$ using linear approximation at $a = 1$.

Problem 4: Estimate $\sin(0.1)$ using linear approximation.

Problem 5: Estimate $\arctan(1.1)$ using linear approximation at $a = 1.0$.

Problem 6: Estimate $\tan(0.3)$ using linear approximation at $a = 0$.