

Name :

Math 170 – 7 –

What is the limit $\lim_{x \rightarrow 19} x - 18$

What is the limit $\lim_{x \rightarrow \infty} \frac{2x+1}{x-123}$

Calculate the slope of the tangent line to the curve $y = x^3$ at $x = 2$.

Let two trucks, say truck A and truck B be coming towards each other on a road having a length of 200 miles, at respectively 20 and 30 miles per hour. Assume there is superfly that can go 40 miles and hour. The fly starts together with truck A towards truck B, but when it arrives to the window of truck B, it changes direction and goes towards truck A, When it reaches A, it goes back to be etc. until it gets smushed. How much does the fly travel before getting smushed. (This problem can be solved by writing down an infinite series. But there is a quick way to solve it.)