

- (1) [5 points] Evaluate the limit, if it exists: $\lim_{h \rightarrow 0} \frac{(4+h)^2 - 16}{h}$.

- (2) [5 points] Use the Squeeze Theorem to show that $\lim_{x \rightarrow 0} x^4 \cos\left(\frac{2}{x}\right) = 0$.

(3) [5 points] Find the limit:

$$\lim_{\theta \rightarrow 0} \frac{\sin \theta}{\theta + \tan \theta}$$