

1. Justify

$$\lim_{x \rightarrow 5} \frac{x^2 - 6x + 5}{x - 5} = 4$$

using the "Limits don't care about one point" rule.

2. Compute

$$\lim_{h \rightarrow 0} \frac{\sqrt{4+h} - 2}{h}$$

using the "Limits don't care about one point" rule. Hint: Multiply top and bottom by $\sqrt{4+h} + 2$ early in the computation.

3. Use the squeeze theorem to show

$$\lim_{x \rightarrow 0} x \sin\left(\frac{1}{x}\right) = 0.$$