1. Justify

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

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

2. Compute

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

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

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