Practice Problems

1. Write a limit problem where plugging in gives you $0 \div 0$ but the limit equals 4.
**$\lim_{x \to 0} \frac{4x}{x}$ or something like this would work.**

2. Explain when you should use "divide by the highest power" and when you should use "divide by the lowest power".
**Use "highest power" when you have a polynomial divided by a polynomial and x is approaching ∞. Use "lowest power" when you have a polynomial divided by a polynomial and x is approaching 0.**

3. Find $\lim_{x \to 0} \frac{x^5 - x^4 - 6x^3}{2x^4 + 3x^2}$ **The limit is 0.**

4. Find $\lim_{x \to 4} \frac{\sqrt{25 - x^2} - 3}{x - 4}$ **The limit is 4/3.**