1. Let $f(x) = \dfrac{4x^2 + 8x - 32}{x^2 - 7x + 10}$
   (a) Find $\lim_{x \to \infty} f(x)$. Does $f(x)$ have a horizontal asymptote?

   (b) Show the $f(x)$ is undefined at $x = 2$ and $x = 5$

   (c) Where is $f(x)$ continuous?

   (d) Find $\lim_{x \to 2} f(x)$. Does $f(x)$ have a vertical asymptote at $x = 2$?

   (e) Find $\lim_{x \to 5} f(x)$. Does $f(x)$ have a vertical asymptote at $x = 5$?

2. (a) Plot $g(x) = \dfrac{\sin(x)}{x}$ where x is measured in radians. What is $\lim_{x \to 0} g(x)$?

   (b) Plot $h(x) = \dfrac{\sin(x)}{x}$ where x is measured in degrees. What is $\lim_{x \to 0} h(x)$?