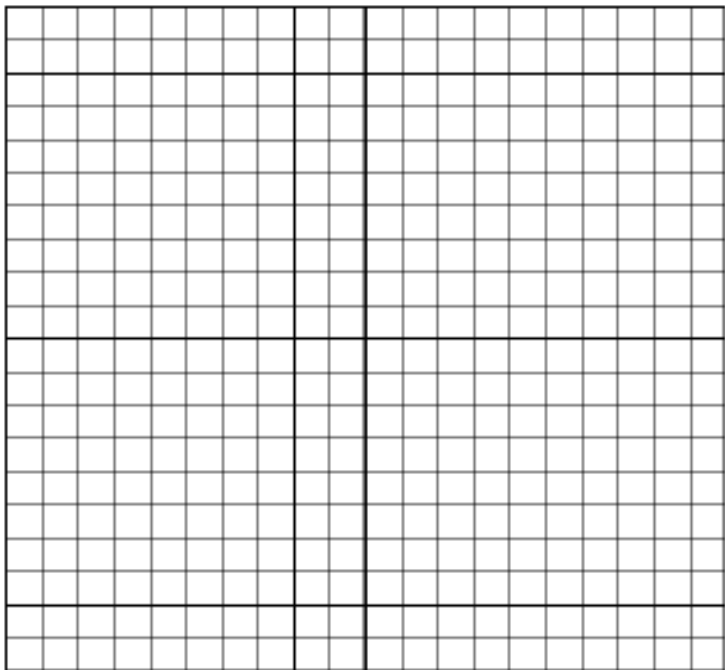


Graph the piece-wise function.

$$f(x) = \begin{cases} 2x + 1 & x \geq 1 \\ x^2 + 3 & x < 1 \end{cases}$$



Find the Domain algebraically

$$f(x) = \frac{\sqrt{36 - x^2}}{x^2 - 4x - 21}$$

Find the Domain. Find any points of discontinuity and label them as removable or infinite. Find any horizontal asymptotes.

$$f(x) = \frac{3x^2}{x^2 - 5x - 24}$$

$$g(x) = \frac{5x - 25}{x^2 + 3x - 40}$$