

1. Graph the function $f(x) = \frac{1}{\sqrt{1-x}}$, showing all horizontal and vertical asymptotes, intercepts and points of discontinuity on your graph.

2. Graph the function $f(x) = \begin{cases} \frac{x^2 + 4x + 4}{x^2 + x - 2} & \text{if } x \neq -2 \\ 4 & \text{if } x = -2 \end{cases}$, showing all horizontal and vertical asymptotes, intercepts and points of discontinuity on your graph.

3. Graph the function $f(x) = \frac{x^2 - 1}{x^2 - 4}$, showing all horizontal and vertical asymptotes, intercepts and points of discontinuity on your graph.