

- To sketch the function $y = \frac{ax+b}{cx+d}$ without the use of your GDC, you should:
 - Find the vertical asymptote, $x = -\frac{d}{c}$.
 - Find the horizontal asymptote, $y = \frac{a}{c}$.
 - Find the y -intercept by letting $x = 0$ and solving for y .
 - Find the x -intercept by letting $y = 0$ and solving for x .
 - Test values on either side of the vertical asymptote to determine whether the curve tends towards positive or negative infinity on that side.
 - Draw the axes and asymptotes, then sketch the curve.
- Reciprocal and rational functions can be used to model many real-life concepts, particularly in the fields of business, science and medicine.