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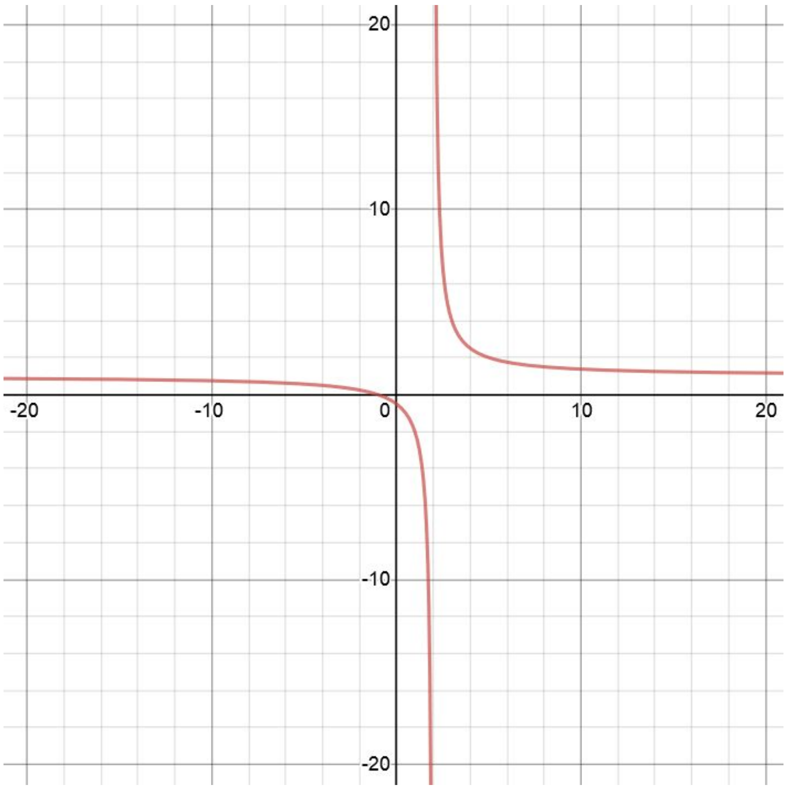
14.1c Finding the x- and y-intercepts of the equation $y = \frac{x+1}{x-2}$ is rather simple; to find the x-intercept, replace y with 0, and to find the y-intercept replace x with 0. This gives us an x-intercept of `y = -1` and a y-intercept of `-0.5`. The graph of this function looks like this:



Finding the vertical asymptote is similarly simple: whatever value of x gives the denominator a value of 0 is the vertical asymptote, which in this case happens to be `x = 2`. Finding the horizontal asymptote is a bit more difficult, but thanks to the book doing a bit of algebraic manipulation, we can say that the horizontal asymptote of a function is $\frac{a}{c}$, which in this case is $\frac{1}{1}$. These are visible on the graph as the two lines converge on x = 2 and y = 1.

14.5 To find the equation that passes through these points, one method we can use is something that haunts my nightmares: a three-way system of equations. In short, this looks like:

`f(1) = 1 =` $\frac{a(1)+b}{(1)+c}$;

`g(5) = 2 =` $\frac{a(5)+b}{(5)+c}$;

`h(20) = 3 =` $\frac{a(20)+b}{(20)+c}$;

Solving this system of equations for the assorted variables, we arrive at the final equation `f(x) =` $\frac{41x+35}{11x+65}$. Recalling from 14.1c that the horizontal asymptote of a function of this sort is $\frac{a}{c}$, we can say that the horizontal asymptote for this function is `y =` $\frac{41}{11}$.