

We can graph the reciprocal of a linear function by transforming the base graph $f(x) = \frac{1}{x}$.

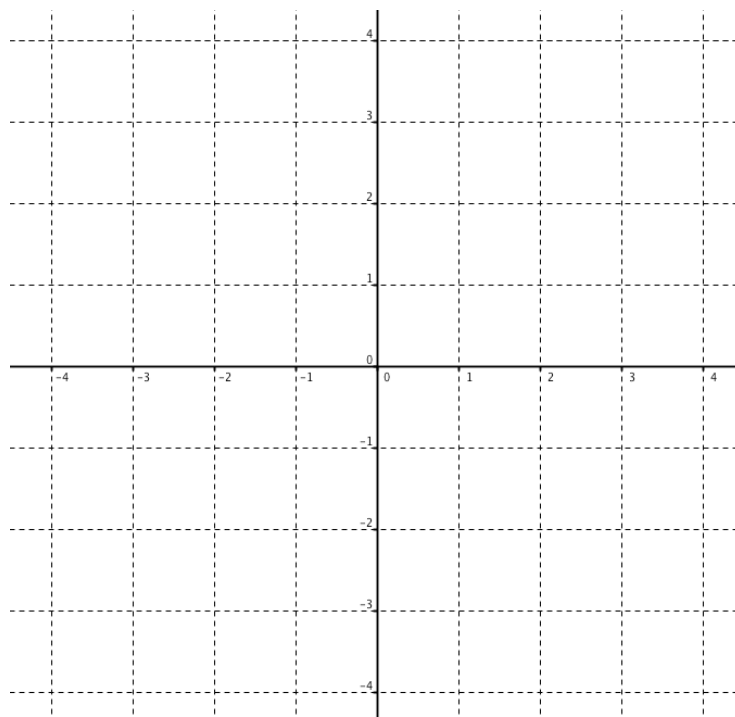
For the function $f(x) = \frac{a}{k(x-d)} + c$

a

k

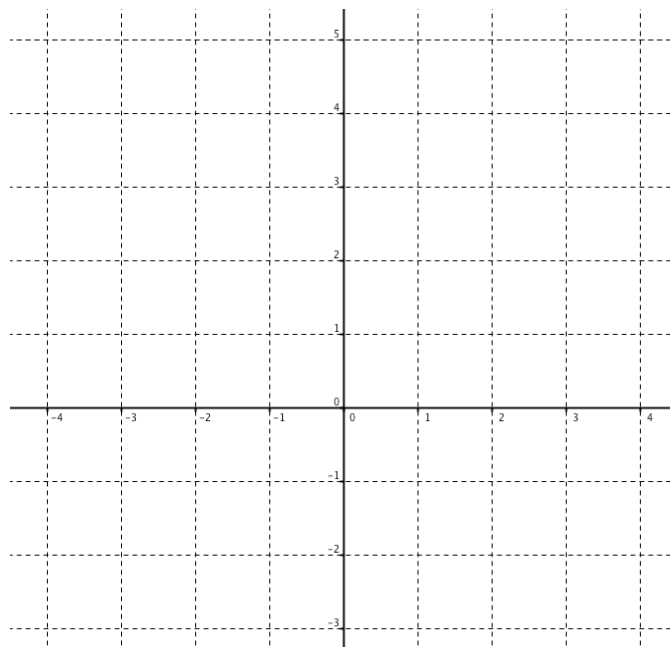
d

c

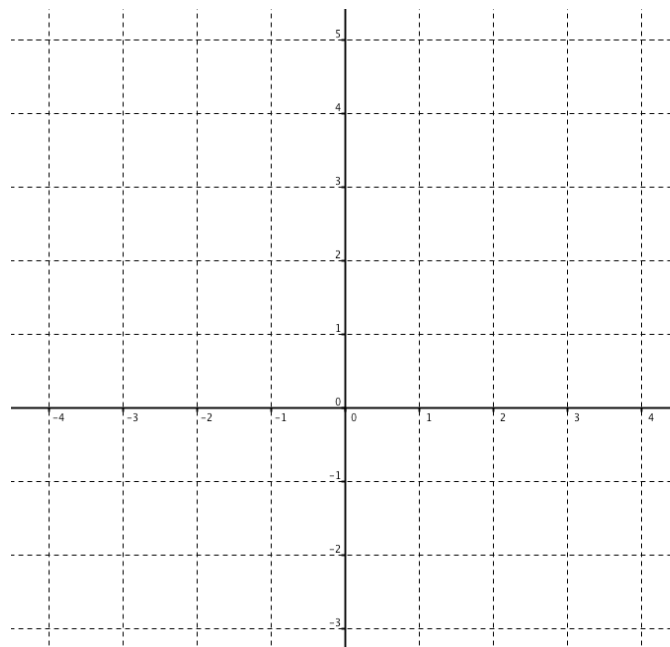


Ex. Graph the following functions by applying transformations to the base graph $f(x) = \frac{1}{x}$.
Label each vertical asymptote, horizontal asymptote, and y-intercept.

a) $g(x) = \frac{-1}{x+2}$

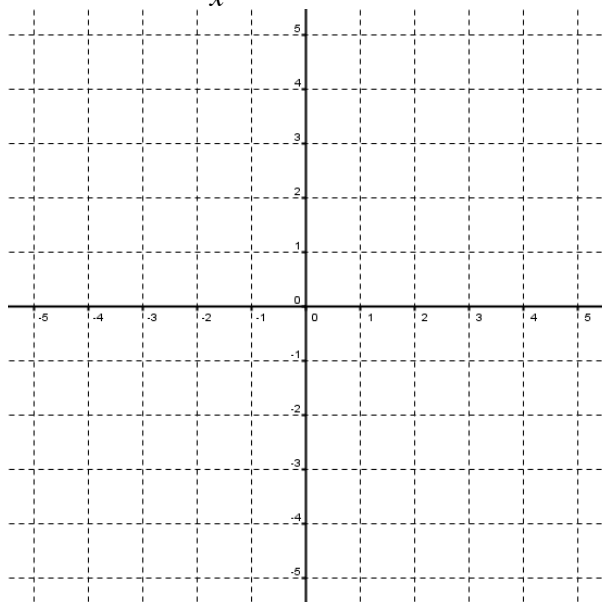


b) $h(x) = \frac{1}{x-1} + 3$

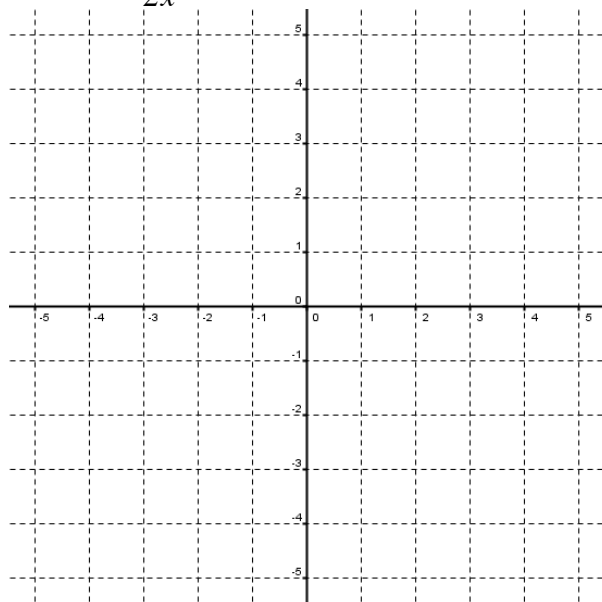


Ex. Graph the following reciprocal functions, marking all points as accurately as possible.

a) $m(x) = \frac{3}{x}$

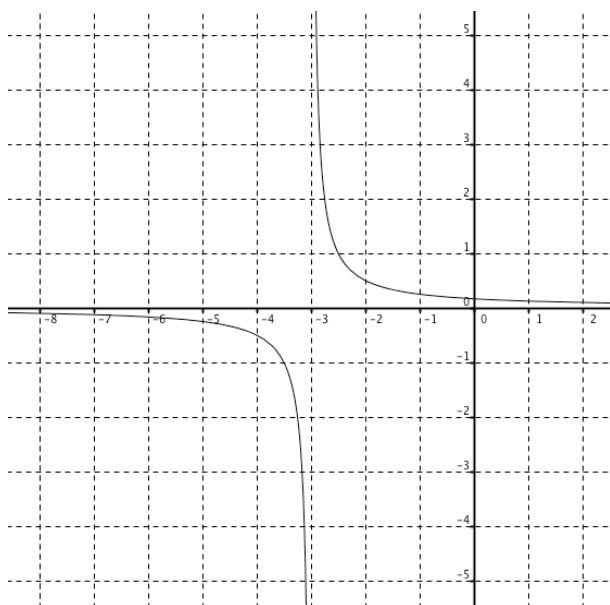


b) $n(x) = \frac{1}{2x}$

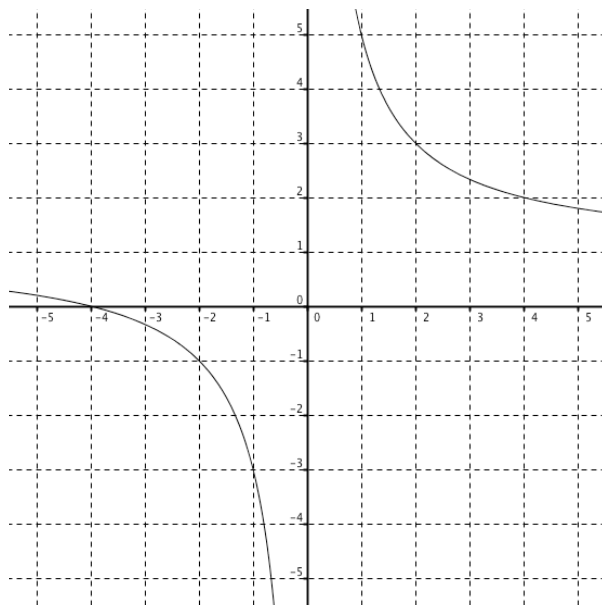


Ex. Write equations for the functions shown in the following graphs.

a)



b)



Ex. Explain the difference between the reciprocal of a function and the inverse of a function. Give examples to illustrate your explanation.