

Most of the functions below (as written) are never 0 for any inputted real number x . Try to find where they are close to 0, and where they are arbitrarily large (where they have a vertical asymptote).

$a(x) = \frac{x-3}{7 + \frac{1}{x-3}}$	$f(x) = \frac{\cos x}{\tan x}$	$k(x) = \frac{e^{-\frac{1}{x^2}}}{e^{\frac{1}{x^2}} - 1}$
$b(x) = \frac{\cos x}{\sec x}$	$g(x) = \frac{\cos^2 x}{\tan x}$	$l(x) = \frac{e^{-\frac{1}{x^2}}}{e^{\frac{1}{x^2}} - 2}$
$c(x) = \frac{\sin x}{\tan x}$	$h(x) = \frac{\cos x}{\tan^2 x}$	$m(x) = \frac{e^{-\frac{1}{x^2}}}{e^{\frac{2}{x^2}} - 1}$
$d(x) = \frac{\sin^2 x}{\tan x}$	$i(x) = \frac{(\sin x)(\cos x)}{\tan x}$	
$e(x) = \frac{\sin x}{\tan^2 x}$	$j(x) = \frac{e^{-\frac{1}{x^2}}}{e^{\frac{1}{x^2}}}$	

Use any means you want so long as you are able to justify them and your results. This will be for extra credit and is by all means optional. If you have any questions, ask.