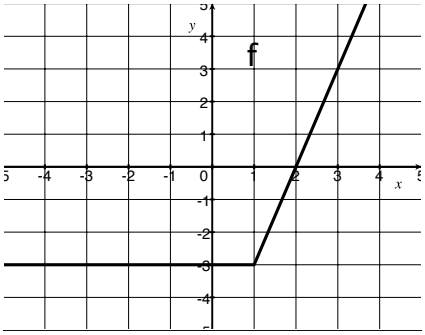
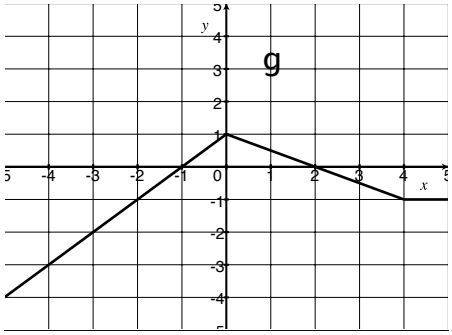
L'Hospital's Rule §4.4

1. Let f be the function graphed on the left and g be the function graphed on the right.





Estimate the following (if possible):

$\lim_{x\to 2} \dfrac{f(x)}{g(x)}$ $\lim_{x\to -1} \dfrac{g(x)}{f(x)}$

2. Find the following:

$\lim_{x\to 1} \dfrac{x^2 - x}{x^2 - 1}$ $\lim_{x\to 0} \dfrac{x + \sin(x)}{x + \cos(x)}$ $\lim_{x\to \infty} x^3 e^{-x^2}$