Lecture Activity: L'Hospital's Rule

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`math.dartmouth.edu/~blogsdon/activity_2024-10-28.pdf`

1. What can we say about the limit $\lim_{x \to a} \frac{f(x)}{g(x)}$ if
   - 1.1 $\lim_{x \to a} f(x) = 5$ and $\lim_{x \to a} g(x) = \infty$?
   - 1.2 $\lim_{x \to a} f(x) = \infty$ and $\lim_{x \to a} g(x) = -2$?
   - 1.3 $\lim_{x \to a} f(x) = \infty$ and $\lim_{x \to a} g(x) = \infty$?

2. What can we say about the limit $\lim_{x \to a} f(x) - g(x)$ if
   - 2.1 $\lim_{x \to a} f(x) = 5$ and $\lim_{x \to a} g(x) = \infty$?
   - 2.2 $\lim_{x \to a} f(x) = \infty$ and $\lim_{x \to a} g(x) = -\infty$?
   - 2.3 $\lim_{x \to a} f(x) = \infty$ and $\lim_{x \to a} g(x) = \infty$?