

Name: _____

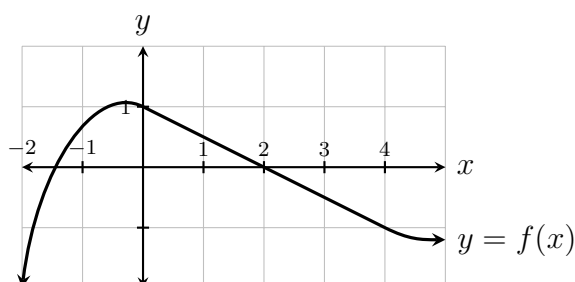
Directions. Find the limits with L'Hôpital's rule. In each case, state what indeterminate form is involved.

1. $\lim_{x \rightarrow 0} \frac{2 + 4 \ln |x|}{x + 3 \ln |x|} =$

2. $\lim_{x \rightarrow \infty} x \tan\left(\frac{1}{x}\right) =$

3. $\lim_{x \rightarrow 0^+} (\ln(\sin(x)) - \ln(x)) =$

4. Given the function $f(x)$ graphed below, find $\lim_{x \rightarrow 2} \frac{f(x)}{5x^2 - 20}$



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Directions. Find the limits with L'Hôpital's rule. In each case, state what indeterminate form is involved.

1. $\lim_{x \rightarrow \infty} \frac{\ln|x|}{x} =$

2. $\lim_{x \rightarrow \pi} (x - \pi) \tan(x/2) =$

3. $\lim_{x \rightarrow \infty} (\ln(x^2 - 1) - 2 \ln(x)) =$

4. Given the function $g(x)$ graphed below, find $\lim_{x \rightarrow 2} \frac{\ln|5x - 9|}{g(x)}$

