

Formative Assessment #34 – L'Hopital's Rule

C7.3 & C8.4: I can evaluate limits involving trigonometric, exponential and logarithmic functions using L'Hôpital's Rule.

Answer on your own paper.

1. For each limit, determine whether L'Hopital's Rule applies. If it does, use it to evaluate the limit.

a) $\lim_{x \rightarrow 2} \frac{\sin(x^2-4)}{x-2}$

b) $\lim_{x \rightarrow 0^+} \frac{x^2+3x+7}{2x}$

c) $\lim_{x \rightarrow -\infty} \frac{\ln(x-5)}{x}$

d) $\lim_{x \rightarrow +\infty} \frac{3^x}{x^2 + x - 1}$

e) $\lim_{x \rightarrow 0} \frac{\tan x - 2x}{\sin x}$