

SECTION 4.4: LIMITS OF INDETERMINATE TYPE AND L'HOSPITAL'S RULE

Evaluate:

1. $\lim_{x \rightarrow 2} \frac{x^2 - 4}{x^2 - 5x + 6}$ (type _____)

2. $\lim_{x \rightarrow 0} \frac{\sin x}{x}$ (type _____)

3. $\lim_{x \rightarrow 0} \frac{\tan(5x)}{\sin(3x)}$ (type _____)

4. $\lim_{u \rightarrow \infty} e^{u/10}(u^{-2})$ (type _____)

5. $\lim_{x \rightarrow 0} \frac{\cos(4x)}{e^{2x}}$ (type _____)

6. $\lim_{x \rightarrow 0} \frac{xe^x}{2^x - 1}$ (type _____)

7. $\lim_{x \rightarrow 1^+} (\ln(x^4 - 1) - \ln(x^9 - 1))$ (type _____)

8. $\lim_{x \rightarrow \infty} \sqrt{x}e^{-x/2}$ (type _____)