

Name: _____ Score: _____

Teacher: _____ Date: _____

Limits at Infinity – Exponential functions

For all the questions evaluate (a) $\lim_{x \rightarrow -\infty} f(x)$ and (b) $\lim_{x \rightarrow \infty} f(x)$

1. $f(x) = e^{5+3x-x^3}$
2. $f(x) = e^{\frac{5x^2+x}{6+2x}}$
3. $f(x) = 4e^{8x} - e^{-5x} - 8e^{4x}$
4. $f(x) = 5e^{-x} - 9e^{-7x} - e^{12x}$
5. $f(x) = \frac{5e^{-5x} - 3e^{7x}}{6e^{7x} - 4e^{-5x}}$
6. $f(x) = \frac{e^{-9x} - 3e^{4x} - e^x}{2e^{-x} + 12e^{9x} + 3e^{-5x}}$
7. $f(x) = e^{3x+5x^2+3x^4}$
8. $f(x) = e^{\frac{4+3x^6}{2x-7x^4}}$
9. $f(x) = \frac{e^{4x} + 7e^{-2x} - 5e^{9x}}{3e^{8x} - e^{-2x}}$
10. $f(x) = 14e^{-7x} - e^{4x} + 2e^{3x} - e^{-4x}$