

Compute the following limits:

1. $\lim_{x \rightarrow \infty} x - \ln(x)$
2. $\lim_{x \rightarrow 0} \frac{\sin(2x)}{\tan(3x)}$
3. $\lim_{x \rightarrow 0} x^2 \sec(2x) \cot(3x)$
4. $\lim_{x \rightarrow 4} \frac{x^2 - 6x + 8}{\sqrt{x} - 2}$
5. $\lim_{x \rightarrow 4} \frac{x^3 - 4x^2 + x - 4}{x^2 - 2x - 8}$
6. $\lim_{t \rightarrow 1} \frac{\sqrt{10 - t} - 3}{1 - t}$
7. $\lim_{t \rightarrow 0} \frac{\frac{t}{t+1} - t}{t}$
8. $\lim_{m \rightarrow 0} \frac{\frac{1}{m^2} - \frac{1}{m}}{\frac{1}{m^2}}$
9. $\lim_{x \rightarrow 0^+} \frac{(\ln(x))^2}{e^{1/x}}$
10. $\lim_{x \rightarrow 0} \frac{1 - \cos(x)}{x}$
11. $\lim_{x \rightarrow 0} \frac{\sin\left(\frac{x}{5}\right)}{\sin(3x)}$
12. $\lim_{x \rightarrow 1^+} \frac{x}{x-1} - \frac{1}{\ln(x)}$
13. $\lim_{x \rightarrow (\pi/2)^-} (\tan(x))^{\cos(x)}$
14. $\lim_{x \rightarrow \infty} \frac{\ln(e^{-x} + e^{-2x})}{x}$
15. $\lim_{x \rightarrow \infty} e^{-x}(\ln(2x+3) - 2\ln(x))$
16. $\lim_{x \rightarrow 0} x \sin\left(\frac{1}{x}\right)$
Hint: Use the Squeeze Theorem.