

Evaluating limits when $x \rightarrow \infty$.

1. Show $\lim_{x \rightarrow \infty} \frac{x+2}{x-2} = 1$.

2. Show $\lim_{x \rightarrow \infty} \frac{3x^2 + 2x - 5}{5x^2 + 3x + 1} = 3/5$.

3. Show $\lim_{x \rightarrow \infty} \frac{x^2 - 7x + 11}{3x^2 + 10} = 1/3$.

4. Show $\lim_{x \rightarrow \infty} \frac{2x^3 - 5x + 7}{7x^3 + 2x^2 - 6} = 2/7$.

5. Show $\lim_{x \rightarrow \infty} \frac{(3x-1)(4x-5)}{(x+6)(x-3)} = 12$.

6. Show $\lim_{x \rightarrow \infty} \frac{x}{\sqrt{4x^2 + 1} - 1} = 1/2$.

7. Show $\lim_{x \rightarrow -\infty} 2^x = 0$.

8. Show $\lim_{t \rightarrow \infty} \frac{t+1}{t^2+1} = 0$.

9. Show $\lim_{n \rightarrow \infty} \sqrt{n^2 + 1} - n = 0$.

10. Show $\lim_{n \rightarrow \infty} \sqrt{n^2 + n} - n = 1/2$.