Limits to Infinity

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1. *Solve* $\lim\limits_{x\to\infty} \dfrac{x^3 - 2}{2x^4 - 7x^2 + x}$

2. *Solve* $\lim\limits_{x\to\infty} \dfrac{9x^2}{x + 1}$

3. *Solve* $\lim\limits_{x\to\infty} \dfrac{4x^3 - 2x + 7}{3x^3 + 12x^2 + x - 4}$

4. *Solve* $\lim\limits_{x\to\infty} \dfrac{7x^2 - 5}{x^2 - 25}$

5. *Solve* $\lim\limits_{x\to\infty} \dfrac{3x^2 + 4}{3x^2 + 4x - 5}$

6. *Solve* $\lim\limits_{x\to\infty} \cos\left(\dfrac{x - 2}{x^3 + 5x - 2}\right)$

7. *Solve* $\lim\limits_{x\to\infty} e^{\frac{x}{x^2+1}}$

8. *Solve* $\lim\limits_{x\to-\infty} \dfrac{4x^2 + x - 1}{x + 1}$

9. *Solve* $\lim\limits_{x\to-\infty} \dfrac{3x^3}{\sqrt{9x^6 + x}}$

10. *Solve* $\displaystyle\lim_{x \to -\infty} \frac{\sqrt{x^2 + 2}}{3x - 6}$

11. *Solve* $\displaystyle\lim_{x \to -\infty} \frac{-2x}{x - \sqrt{x^2 + 2x}}$

12. *Solve* $\displaystyle\lim_{x \to -\infty} 3x + \sqrt{9x^2 + x}$