

Evaluate the following limits:

(1)

$$\lim_{x \rightarrow \infty} \frac{12x^5 - 423x^4 + 346x^3 - 2533x^2 + 76x - 12493}{36x^5 + 344x^2 + 264x - 1}$$

(2)

$$\lim_{x \rightarrow 0} \frac{\tan x}{\sin 2x}$$

(3)

$$\lim_{w \rightarrow 4} \frac{\sqrt{w+5} - 3}{w^2 - 16}$$

(4)

$$\lim_{x \rightarrow -2} \frac{x^2 + 3x + 2}{3 - \sqrt{x^2 + 5}}$$