



Série 0: Les limites



Fonctions rationnelles

Exercice 1

Calculer les limites suivantes:

$$① \lim_{x \rightarrow 1} \frac{x^2 - x}{x^2 - 1}$$

$$⑤ \lim_{x \rightarrow 2} \frac{x^2 - 5x + 6}{-3x^2 + 7x - 2}$$

$$⑨ \lim_{x \rightarrow 0} \frac{x^2 - x}{x^2 + x}$$

$$② \lim_{x \rightarrow -2} \frac{x + 2}{x^2 - 4}$$

$$⑥ \lim_{x \rightarrow 1} \frac{(1 - x)^3}{x^2 - 3x + 2}$$

$$⑩ \lim_{x \rightarrow 1} \frac{x^2 + x - 2}{x - 1}$$

$$③ \lim_{x \rightarrow 1} \frac{x^3 + x^2 - 2}{x - 1}$$

$$⑦ \lim_{x \rightarrow 2} \frac{2x - x^2}{x^2 - 3x + 2}$$

$$⑪ \lim_{x \rightarrow -1} \frac{x^3 + 6x^2 + 11x + 6}{-7x^2 + 3x + 10}$$

$$④ \lim_{x \rightarrow 1} \frac{1 - x^2}{x^2 - 3x + 2}$$

$$⑧ \lim_{x \rightarrow 2} \frac{x^2 - 5x + 6}{x^2 - 2x}$$

$$⑫ \lim_{x \rightarrow 3} \frac{27 - x^3}{x - 3}$$

Exercice 2

Calculer les limites suivantes:

$$① \lim_{x \rightarrow -\infty} \frac{x^4 - x^3 + x}{x^2 - 1}$$

$$③ \lim_{x \rightarrow +\infty} \frac{x^2 - x + 6}{x^2 - 1}$$

$$⑤ \lim_{x \rightarrow +\infty} \frac{x^2 - 5x + 6}{-3x^2 + 7x^6 - 2}$$

$$② \lim_{x \rightarrow -\infty} \frac{x^3 - x}{x^2 - 1}$$

$$④ \lim_{x \rightarrow +\infty} \frac{x^4 + 5x - 1}{x^2 - 4x^4}$$

$$⑥ \lim_{x \rightarrow -\infty} \frac{1 - x^2}{x^2 - 3x^5 + 2}$$

Exercice 3

Calculer les limites suivantes:

$$① \lim_{x \rightarrow 2^-} \frac{x^2 - x}{-2x + 4}$$

$$⑥ \lim_{x \rightarrow 1^+} \frac{1 + x^2}{x^2 - 3x + 2}$$

$$⑩ \lim_{x \rightarrow 1^-} \frac{x^3 + 6}{7x^2 + 3x - 10}$$

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

$$⑦ \lim_{x \rightarrow -2} \frac{x^3 + 5x}{x^2 + 4x + 4}$$

$$⑪ \lim_{x \rightarrow -2^-} \frac{x^2 - 5x + 6}{x^4 + x^3 - 2^2}$$

$$③ \lim_{x \rightarrow 1^+} \frac{x^2 + x}{x - 1}$$

$$⑧ \lim_{x \rightarrow 2^-} \frac{x^2 + 5x + 6}{-3x^2 + 7x - 2}$$

$$⑫ \lim_{x \rightarrow 1} \frac{x^2 + 5x - 6}{(x - 1)^{2019}}$$

$$④ \lim_{x \rightarrow 0} \frac{x^2 + 5x - 1}{x^2}$$

$$⑨ \lim_{x \rightarrow -1} \frac{-3 - 2x}{(x + 1)^2}$$

$$⑫ \lim_{x \rightarrow 2} \frac{3x - 4}{|x - 2|}$$

$$⑤ \lim_{x \rightarrow 3^+} \frac{1 - x}{-x^2 + 4x - 3}$$