

LIMITE DE TIPUL 1 ⁸

Calculați:

$$1) \lim_{x \rightarrow \infty} \left(1 + \frac{1}{5x}\right)^{2x} \quad \text{M}$$

$$\lim_{x \rightarrow \infty} \left(\frac{x+5}{x}\right)^{3x+1}$$

$$2) \lim_{x \rightarrow \infty} \left(1 + \frac{3x}{x^2+1}\right)^{2x+3} \quad \text{M}$$

$$\lim_{x \rightarrow \infty} \left(\frac{2x^2 + 2x + 1}{2x^2 + 1}\right)^{7x}$$

$$3) \lim_{x \rightarrow \infty} \left(\frac{x+3}{x+7}\right)^{5x-1} \quad \text{M}$$

$$\lim_{x \rightarrow \infty} \left(\frac{1+3x+x^2}{x^2+1}\right)^{2x+3}$$

$$4) \lim_{x \rightarrow \infty} \left(\frac{x^2-3x+1}{x^2+5x+3}\right)^{\frac{2x+3}{5}} \quad \text{M}$$

$$\lim_{x \rightarrow \infty} \left(\frac{3x+2}{3x-7}\right)^{\frac{x^2}{2x+1}}$$

$$5) \lim_{x \rightarrow \infty} \left(1 + \frac{1}{x+1}\right)^{2x} \left(\frac{x+1}{x-2}\right)^{-x} \quad \text{M}$$

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

$$6) \lim_{x \rightarrow \infty} \left(\frac{2x+1}{3x+2} + \frac{x-2}{3x}\right)^{2x+5} \quad \text{M}$$

$$\lim_{x \rightarrow \infty} \left(\frac{\sqrt{x^2+x-1}}{x-1}\right)^{2x-1}$$

$$7) \lim_{x \rightarrow \infty} \left(\sqrt{\frac{x^2+x-1}{x^2+x-1}}\right)^{\frac{3x-2}{3}} \quad \text{M}$$

$$\lim_{x \rightarrow \infty} \left(\sqrt{\frac{x^2+2}{x^2+x}}\right)^{3x+5}$$

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