

Vypočtete limitu:

$$1) \lim_{x \rightarrow -2} \frac{\sqrt{4x+12} - 2}{3x+5+e^{-2x-4}}$$

$$2) \lim_{x \rightarrow \frac{2}{3}\pi} \frac{3 \log^2 x - 9}{-\frac{1}{2} - \cos(5x)}$$

$$3) \lim_{x \rightarrow \frac{\pi}{4}} \frac{7 - 7 \cot^2 x}{\sin(3x) - \frac{\sqrt{2}}{2}}$$

$$4) \lim_{x \rightarrow -4} \frac{-e^{5x+20} - (x+3)}{7 - \sqrt{-2x+41}}$$

Nalezněte všechny asymptoty grafu funkce f:

$$5) f(x) = \frac{-2x^2 - 6x - 1}{x - 3}$$

$$6) f(x) = \frac{2x^2 - 9x + 2}{x + 1}$$

$$7) f(x) = \arctg x + x$$