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$$\lim_{x \rightarrow +\infty} \frac{\log(x^4 + 3x^2 - 5x + 2) + \sin(x^5 - 3x + 8)}{x^2 - 3\sqrt{x} + 5} =$$

$$= \lim_{x \rightarrow +\infty} \frac{4 \log x + \log\left(1 + \frac{3}{x^2} - \frac{5}{x^3} + \frac{2}{x^4}\right) + \sin(x^5 - 3x + 8)}{x^2 \left(1 - 3\sqrt{\frac{x}{x^4}} + \frac{5}{x^2}\right)}$$

$$= \lim_{x \rightarrow +\infty} \frac{\frac{4 \log x}{x^2} + \frac{\log\left(1 + \frac{3}{x^2} - \frac{5}{x^3} + \frac{2}{x^4}\right)}{x^2} + \frac{\sin(x^5 - 3x + 8)}{x^2}}{1 - \frac{3}{\sqrt{x^3}} + \frac{5}{x^2}}$$

$\infty \cdot 0$