

$$\begin{aligned}
30. \quad & \lim_{x \rightarrow \infty} \left(\sqrt{x^2 + 2x} - \sqrt{x^2 - 2x} \right) \\
&= \lim_{x \rightarrow \infty} \frac{x^2 + 2x - x^2 + 2x}{\sqrt{x^2 + 2x} + \sqrt{x^2 - 2x}} \\
&= \lim_{x \rightarrow \infty} \frac{4x}{x\sqrt{1 + \frac{2}{x}} + x\sqrt{1 - \frac{2}{x}}} \\
&= \lim_{x \rightarrow \infty} \frac{4}{\sqrt{1 + \frac{2}{x}} + \sqrt{1 - \frac{2}{x}}} = \frac{4}{2} = 2
\end{aligned}$$