

$$\begin{aligned}
 & \text{36} \\
 (112) \quad & \lim_{x \rightarrow 3} \frac{\sqrt{x^2+1}-4}{\sqrt{x-2}-1} \cdot \frac{\sqrt{x^2+1}+4}{\sqrt{x^2+1}+4} \cdot \frac{\sqrt{x-2}+1}{\sqrt{x-2}+1} = \lim_{x \rightarrow 3} \frac{x^2-8}{x-3} \cdot \frac{\sqrt{x-2}+1}{\sqrt{x^2+1}+4} \cdot \lim_{x \rightarrow 3} \frac{(x+3)(x+3)(\sqrt{x-2}+1)}{x-3(x^2+1+4)} \\
 & = \frac{6 \cdot 2}{8} = \frac{3}{2}
 \end{aligned}$$