

$$\begin{aligned}\int_{-\infty}^0 \frac{1}{5-4x} dx &= \lim_{t \rightarrow -\infty} \int_t^0 \frac{1}{5-4x} dx = \lim_{t \rightarrow -\infty} \left[-\frac{1}{4} \ln |5-4x| \right]_t^0 \\ &= \lim_{t \rightarrow -\infty} \left[-\frac{1}{4} \ln 5 + \frac{1}{4} \ln |5-4t| \right] = \infty.\end{aligned}$$

Divergent