24) 

$$
\begin{aligned}
& \lim _{x \rightarrow-\infty}\left(\frac{1}{2} x-\frac{4}{x^{2}}\right) \\
& \lim _{x \rightarrow-\infty} \frac{x^{3}-8}{2 x^{2}} \quad \text { none }
\end{aligned}
$$


26) $\lim _{x \rightarrow-\infty} \frac{x}{\sqrt{x^{2}+1}} \frac{x}{|x|}$

$$
-1
$$

28) $\lim _{x \rightarrow-\infty} \frac{-3 x+1}{\sqrt{x^{2}+x}} \frac{-3 x}{|x|}$
29) $\lim _{x \rightarrow \infty} \cos \left(\frac{1}{x}\right)^{\circ}=\cos (0)=1$

$$
3
$$

50) $y=\frac{x-3}{x-2}$ domain: $\mathbb{R}$ except $\{2\}$
vertical asymptote: $x=2$ horizontal ": $y=1$

$$
y \text {-int: } \frac{3}{2} \quad\left(0, \frac{3}{2}\right)
$$

$$
x-\sin t:\{3\}
$$

$$
\begin{aligned}
\frac{d y}{d x} & =\frac{|(x-2)-(x-3)|}{(x-2)^{2}} \\
& =\frac{1}{(x-2)^{2}} \quad \begin{array}{l}
\quad \frac{d y}{d x} \neq 0 \\
\text { undeFined at } 2
\end{array}
\end{aligned}
$$



