

2.86
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(c) $x \neq 0, \pm\sqrt{3}$

$x(x^2-3) > 0$

$-\frac{1}{\sqrt{3}} \quad 0 \quad -\frac{1}{\sqrt{3}}$

$\boxed{x > \sqrt{3}}$
 $\boxed{-\sqrt{3} < x < 0}$

(d)

$\eta = \lim_{x \rightarrow \infty} \frac{1}{\sqrt{x(x^2-3)}} \rightarrow 0$ ~~$\lim_{x \rightarrow \infty} \frac{1}{x\sqrt{x(x^2-3)}} \rightarrow 0$~~ $\boxed{y=0}$

$\lim_{x \rightarrow \sqrt{3}^+} \frac{1}{\sqrt{x(x^2-3)}} = \frac{1}{0^+} = \infty$

$\lim_{x \rightarrow 0^-} \frac{1}{\sqrt{x(x^2-3)}} = \frac{1}{\sqrt{0^-}} = \infty$ $\lim_{x \rightarrow -\sqrt{3}^+} \frac{1}{\sqrt{x(x^2-3)}} = \frac{1}{0^+} = \infty$

$\boxed{x = \sqrt{3}}$
 $\boxed{y = -\sqrt{3}}$
 $\boxed{x = 0}$

(e) $f = (x^3-3x)^{-\frac{1}{2}}$

$f' = -\frac{1}{2}(x^3-3x)^{-\frac{3}{2}}(3x^2-3) = -\frac{3x^2-3}{2\sqrt{x^3-3x}}$

при $x = -1$ и $x = 1$ (при $x = 0$ не определено)

$-\sqrt{3}$	$-\frac{1}{2}$	-1	$-\frac{1}{2}$	0	$\sqrt{3}$	2
	$-$	0	$+$			$-$
	\searrow	min	\nearrow			\searrow

min $(-1, \frac{1}{2})$

$-1 < x < 0$ diff. min
 $-\sqrt{3} < x < -1, x > \sqrt{3}$ max

