

2.79  
K3

(1)  $x \neq -1$

(2)  $(0, 1)$   $(1, 0)$

(3)  $\lim_{x \rightarrow -1^+} \frac{(x-1)^2}{x+1} = \frac{4}{0} = \infty$   
 $\lim_{x \rightarrow -1^-} \frac{(x-1)^2}{x+1} = \frac{4}{-0} = -\infty$  }  $x = -1$

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

$n = \lim_{x \rightarrow \infty} \left[ \frac{(x-1)^2}{x+1} - x \right] \cdot \lim_{x \rightarrow \infty} \frac{x^2 - 2x + 1 - x^2 - x}{x+1} = -3$   
 $y = x - 3$

(4-5)  $x \rightarrow -\infty$   $\Rightarrow$   $\sqrt[3]{x}$   $\Rightarrow$   $\sqrt[3]{x}$   $\Rightarrow$   $\sqrt[3]{x}$   
 $y' = \frac{2(x-1)(x+1) - (x-1)^2}{(x+1)^2} = \frac{(x-1)(2x+2-x-1)}{(x+1)^2}$   
 $= \frac{(x-1)(x+3)}{(x+1)^2}$   
 $x = 1, x = -3$

-4	-3	-2	-1	0	1	2
+	0	-	+	-	0	+
		max		min		

max  $(-3, -8)$   
min  $(1, 0)$

$x < -3, x > 1$   $\frac{y''}{y'}$   
 $-3 < x < -1, -1 < x < 1$   $\frac{y''}{y'}$

