

$$1.) \quad \frac{2x-1}{x} \quad \frac{2x-1}{-x} \quad 2 - \frac{1}{x} = -2 + \frac{1}{x} \quad x = \frac{1}{2}$$

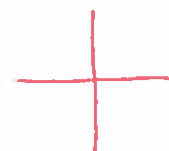
$$2 - \frac{1}{x} \quad -2 + \frac{1}{x}$$

$$4 = \frac{2}{x}$$

$$4x = 2$$



$$f(x) = \begin{cases} 2 - \frac{1}{x} & x > 0 \\ -2 + \frac{1}{x} & x < 0 \end{cases}$$



$$a) \lim_{x \rightarrow \infty} f(x) = 2$$

$$b) \lim_{x \rightarrow -\infty} f(x) = -2$$

$$c) \lim_{x \rightarrow 0^+} f(x) = -\infty$$

$$d) \lim_{x \rightarrow 0^-} f(x) = -\infty$$

$$e.) y = \pm 2$$

$$f.) x = 0$$

$$2.) \quad a) x \neq 0$$

$$b.) \text{ none}$$

$$c.) \text{ none}$$

$$d.) \lim_{x \rightarrow 0^+} h(x) = 0$$

$$f.) \lim_{x \rightarrow 0} h(x) = \text{DNE}$$

$$e.) \lim_{x \rightarrow 0^+} h(x) = 1$$

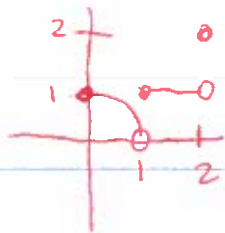
3.) (a) $\frac{\sin x}{x}$ if $x > 0$ or $\frac{\sin -x}{x}$ if $x < 0$ odd

$$\frac{\sin|-x|}{-x} = \frac{\sin x}{-x} = -\frac{\sin x}{x} \text{ so odd}$$

(b) $\sin|x| = 0 \quad |x| = \pi n \quad \text{so } \pi n \text{ if } n \neq 0$

(c) $\lim_{x \rightarrow 0} g(x) \Rightarrow \text{DNE}$

4.) (a) $y = \sqrt{1-x^2} \rightarrow y^2 = 1-x^2 \rightarrow x^2 + y^2 = 1$ circle $(0,0)$ $r=1$



(b) $(0,1) \cup (1,2)$

(c) $x=2$

(d) $x=0$

AP Calculus

*None is an option

Match the function graphs (f) with the graphs of their derivatives (d).

A		I	
B		J	
C		K	
D		L	
E		M	
F		N	
G		O	
H			

MATCHING:

A	8
B	1
C	10
D	5
E	3
F	7
G	12
H	11
I	2
J	9
K	14
L	4
M	13
N	15
O	None

Name: Key

Period: _____

1		9	
2		10	
3		11	
4		12	
5		13	
6		14	
7		15	
8			