Unit 1 - Mid-Unit Review Activity

AP Calc. AB/BC

Warmup: Questions from CA1 - Lesson 1.9?

If you haven’t finished the CA worksheet from yesterday take it out and continue to work on it during this time.

Match the Four - Card Match Game

Each team is 3-4 players of your choosing, no more, no less.

Match each graph with the equation and two limit statements and record the matches on the recording sheet!

Take your time and discuss amongst your team members to determine if you all agree on the final recording sheet answers.

Once completed bring the recording sheet up to me to verify. If you are correct then you have the rest of the class period to work independently or in your group on Progress Checks or CA worksheets from previous days.

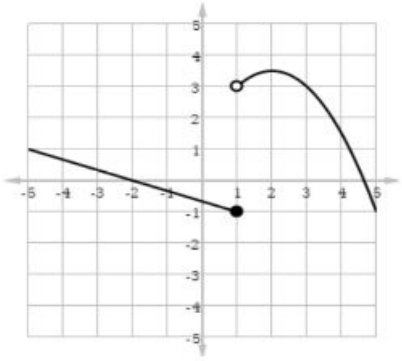
Recording Sheet Card Sort

Name: _____

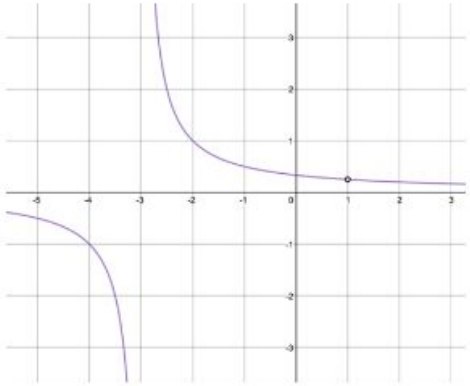
Graph	Equation	Limit Statements
A		
B		
C		
D		
E		
F		

G		
H		
I		
J		
K		
L		

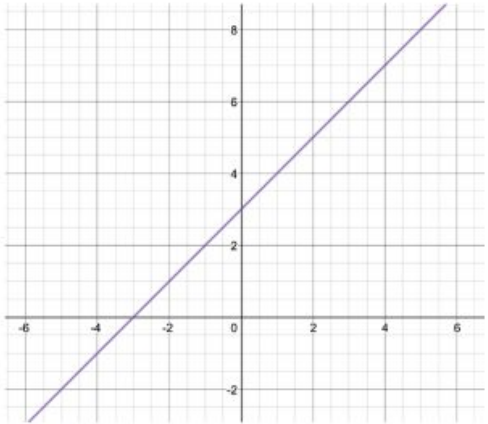
A.



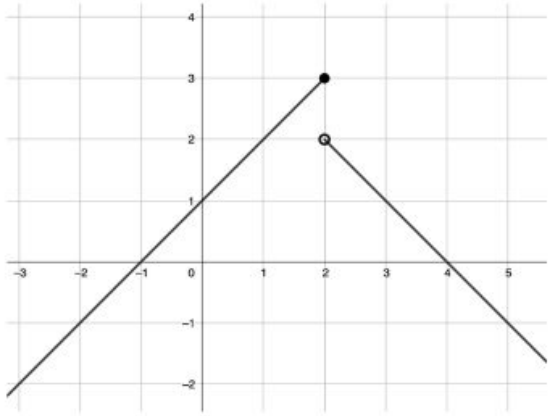
B.



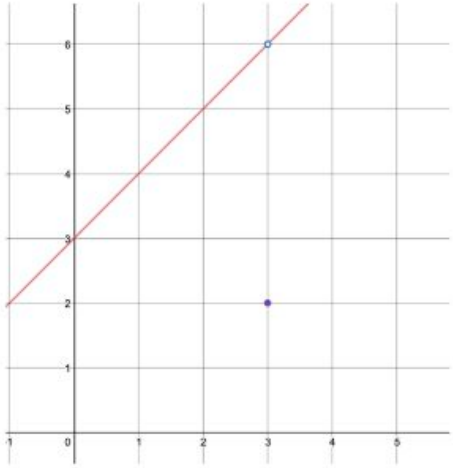
C.



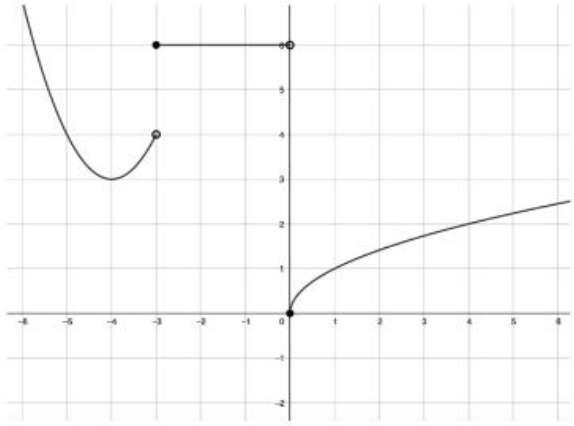
D.



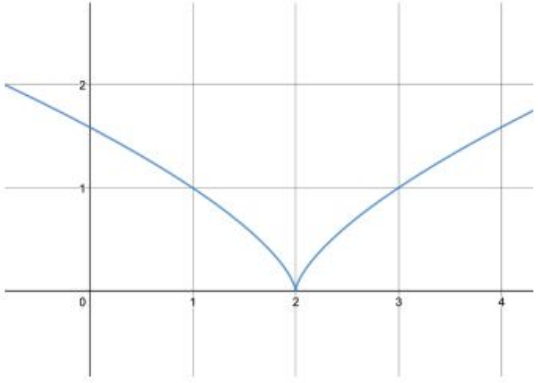
E.



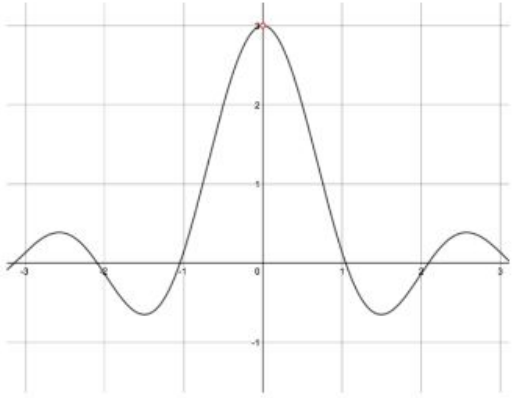
F.



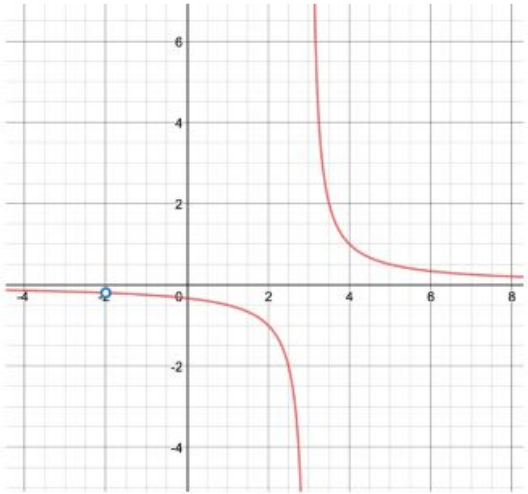
K



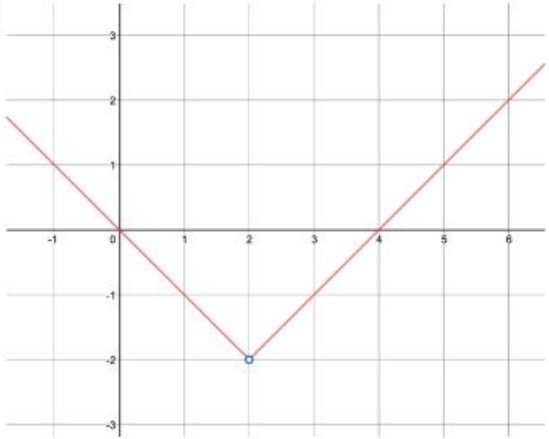
L



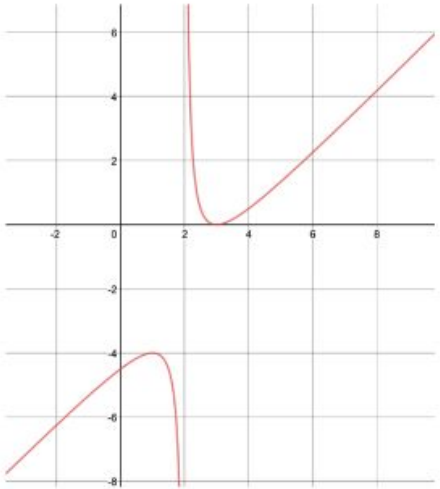
G


6
4
2
-2
-4
-4
-2
0
2
4
6
8

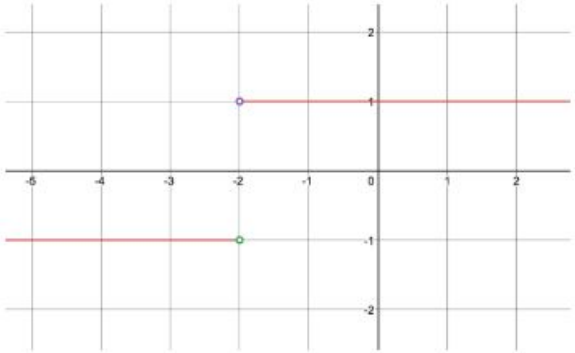
H


3
2
1
-1
-2
-3
-1
0
1
2
3
4
5
6

I


6
4
2
-2
-4
-6
-8
-2
0
2
4
6
8

J


2
1
-1
-2
-5
-4
-3
-2
-1
0
1
2

5

$$f(x) = \begin{cases} -\frac{1}{3}(x+2) & x \le 1 \\ -\frac{1}{2}(x-2)^2 + 3.5 & x > 1 \end{cases}$$

11

$$f(x) = \frac{(x-1)}{(x-1)(x+3)}$$

9

$$f(x) = \begin{cases} \frac{x^2-9}{x-3} & if \ \ x \neq 3 \\ 6 & if \ \ x = 3 \end{cases}$$

2

$$f(x) = \begin{cases} x+1 & x \le 2 \\ -x+4 & x > 2 \end{cases}$$

7

$$f(x) = \begin{cases} \dfrac{x^2 - 9}{x - 3} & if\ x \neq 3 \\ 2 & if\ x = 3 \end{cases}$$

3

$$f(x) = \begin{cases} (x+4)^2 + 3 & x < -3 \\ 6 & -3 \leq x < 0 \\ \sqrt{x} & x \geq 0 \end{cases}$$

1

$$f(x) = \sqrt[3]{(x-2)^2}$$

8

$$f(x) = \frac{\sin 3x}{x}$$

12

$$f(x) = \frac{x+2}{x^2 - x - 6}$$

10

$f(x) = |x - 2| - 2$ for $x \neq 2$

6

$$f(x) = \frac{x^2 - 6x + 9}{x - 2}$$

4

$$f(x) = \frac{|x+2|}{x+2}$$

i There is a jump discontinuity at x=1.	f There is a removable discontinuity at x=1 and an infinite discontinuity at x=-3.
l The discontinuity has been removed and the function is now continuous everywhere.	a There is a jump discontinuity at x=2.

e There is a removable discontinuity at x=3.	j There is a jump discontinuity at x=-3 and x=0.
h This function is continuous everywhere.	c There is a removable discontinuity at x=0.

b There is a removable discontinuity at x=-2 and an infinite discontinuity at x=3.	d There is a removable discontinuity at x=2.
k There is an infinite discontinuity at x=2.	g There is a jump discontinuity at x=-2.

* $\lim_{x \to 1^-} f(x) = -1$ $\lim_{x \to 1^+} f(x) = 3$	~ $\lim_{x \to -3} f(x)$ does not exist and $\lim_{x \to 1} f(x) \neq f(1)$
# $\lim_{x \to a} f(x) = f(a)$ for every real number, *a*.	$ $\lim_{x \to 2^-} f(x) = 3$ $\lim_{x \to 2^+} f(x) = 2$

@

$$\lim_{x \to 3} f(x) \neq f(3)$$

^

$$\lim_{x \to -3^-} f(x) = 4$$

$$\lim_{x \to -3^+} f(x) = 6$$

%

$$\lim_{x \to a} f(x) = f(a)$$

for every real number, *a*.

?

$$\lim_{x \to 0} f(x) \neq f(0)$$

= $\lim_{x \to -2} f(x) \neq f(-2)$ and $\lim_{x \to 3} f(x)$ does not exist	! $\lim_{x \to 2} f(x) \neq f(2)$
& $\lim_{x \to 2} f(x)$ does not exist	+ $\lim_{x \to -2^-} f(x) = -1$ $\lim_{x \to -2^+} f(x) = 1$

Solutions

Group Recording Sheet Solutions