

[illegible]

Your AP Calculus students will be actively engaged in this Sort & Match Task Cards Activity as they review concepts for limits and continuity.



This resource is a sort and match task card activity with 32 cards meant for the beginning unit in **Calculus**. There are 8 graph cards that have a matching Equation Card, Limit Card, and Description Card to create a unique set. There is also a student recording sheet and a separate LAB EXTENSION ACTIVITY to answer questions specific to each card set for writing in mathematics.

- Use the set as a group activity for 2-4 per group .
- Use the cards as a review activity prior to assessing students
- Use the card set in a math workshop rotation station.

Task Cards

PREVIEW

E1

$$f(x) = \frac{x-3}{x^2-4}$$

E2

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

E3

$$f(x) = \frac{x^2+9}{x^3}$$

E4

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

E5

$$f(x) = \frac{x^3}{2(x^2-4)}$$

E6

$$f(x) = \frac{x^3}{2(x^2-4)}$$

E7

$$f(x) = \frac{x^3}{2(x^2-4)}$$

E8

$$f(x) = \frac{x^3}{2(x^2-4)}$$

L1

$$\lim_{x \rightarrow -2} f(x) = \frac{1}{2}$$

L2

$$\lim_{x \rightarrow -2} f(x) = \frac{1}{2}$$

L3

$$\lim_{x \rightarrow -2} f(x) = \frac{1}{2}$$

L4

$$\lim_{x \rightarrow -2} f(x) = \frac{1}{2}$$

L5

$$\lim_{x \rightarrow -2} f(x) = \frac{1}{2}$$

L6

$$\lim_{x \rightarrow -2} f(x) = \frac{1}{2}$$

L7

$$\lim_{x \rightarrow -2} f(x) = 0$$

L8

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

D1

This function has symmetry with respect to $x = 2$. It is continuous on $(-\infty, \infty)$. The range of $f(x)$ is $(-\infty, \infty)$.

D2

This function has a horizontal asymptote at $y = \frac{3}{4}$. The y-intercept is $(0, \frac{3}{4})$.

D3

This function has no horizontal asymptotes. The horizontal asymptote is $y = \frac{1}{2}$.

D4

This function is concave down on $(-\infty, 2)$ and concave up on $(2, \infty)$.

D5

This function has a point discontinuity at $(2, -\frac{1}{4})$ and a y-intercept at $(0, -\frac{1}{2})$.

D6

For every (x, y) of the graph of $f(x)$, $(-x, -y)$ is on the graph. This function has an infinite discontinuity at $x = 0$.

LIMITS & CONTINUITY SORT and MATCH LAB SHEET

Names: _____

Use the completed set of cards to answer the question(s) below.

- For the graph labeled G1, state the domain and range of the function.
[Note: $x = 4.5$ is the location for absolute maximum.]
- For the graph labeled G2, use interval notation to write the x -values where $f(x)$ is continuous.
- For the graph labeled G3, state all asymptotes.
- For the graph labeled G4, find
 - $\lim_{x \rightarrow 1} f(x) =$
 - $\lim_{x \rightarrow 3} f(x) =$
- For the graph labeled G5, state all asymptotes.
- For the graph labeled G6, state all asymptotes.
- For the graph labeled G7, state all asymptotes.
- For the graph labeled G8, use the first derivative to determine if the function is increasing, decreasing, or constant at the given x -value.
 - The function is increasing at $x = -4$.
 - The function is decreasing at $x = 0$.

LIMITS & CONTINUITY SORT and MATCH LAB SHEET

GROUP MEMBER NAMES: _____

Period: _____ Date: _____ Score: _____

Complete the table by matching the graph to the question(s) below.

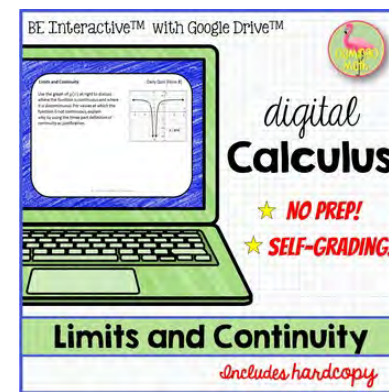
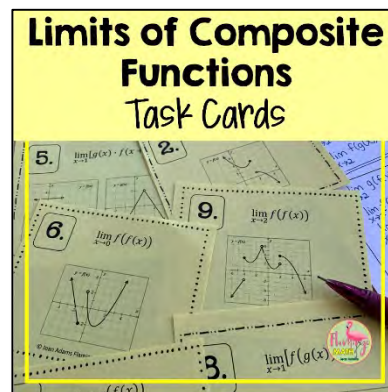
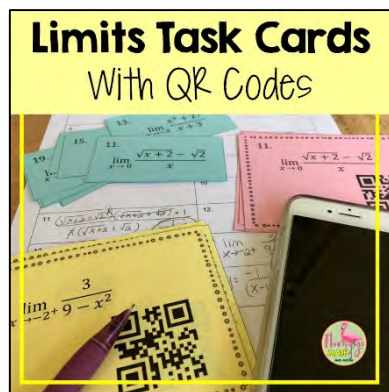
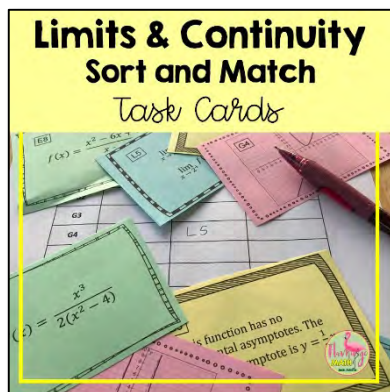
GRAPH	QUESTION	ANSWER	QUESTION	ANSWER
G1				
G2				
G3				
G4				
G5				
G6				
G7				
G8				



My goal is to help you bring balance into your teacher life by providing relevant content, engaging activities, and comprehensive assessments for your high-stakes math course.



More Resources for YOU



Let's keep in touch! I'm here for you!



I appreciate your support and interest in my store.
Please email me with questions or comments:
jean@flamingomath.com

**Sign up for my Newsletter to
gain access to an Exclusive
FREE Resource Library!**

