One Sheet Wonder Activity: Limits

LEARNING OBJECTIVES:

★ Find limits from tables
★ Find limits from graphs
★ Find limits of composite functions across multiple representations.

What is included in this resource?

- Three "*One Sheet Wonder*" pages
- Answer keys

Product Overview

One Sheet Wonder Activity: Limits

Here's a great activity to reinforce **finding limits of functions.** There are three one-sheet activities to keep student skills foremost in their minds.

This activity is designed to help your **AP Calculus** students with finding limits by a variety of representations. There are piecewise functions, tables, composite limits, as well as L'Hospital's Rule.

Copy any *One Sheet Wonder* for a quick review. An answer key is included.

College Board® Topics:

Topic 1.7: Selecting Procedures for Determining Limits
Topic 1.9: Connecting Multiple Representations of Limits

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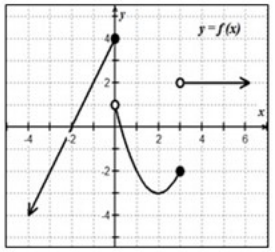
One-Sheet Wonder

Limits from Graphs

Name _____

Use the graph of each function to find the limits for each question.

1.

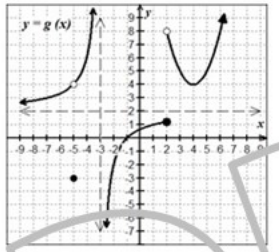


A. $\lim_{x\to 3^-} f(x) =$ **B.** $\lim_{x\to 3^+} f(x) =$

C. $\lim_{x\to 0^-} f(x) =$ **D.** $\lim_{x\to 0^+} f(x) =$

E. $f(0) =$ **F.** $f(3) =$

2.

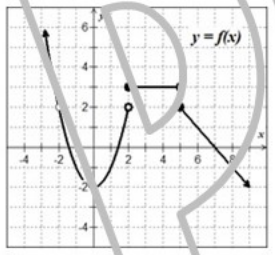


A. $g(-5) =$ **B.** $\lim_{x\to -5} g(x) =$

C. $\lim_{x\to -3^-} g(x) =$ **D.** $\lim_{x\to -3^+} g(x) =$

E. $\lim_{x\to \infty} g(x) =$ **F.** $\lim_{x\to 2} g(x) =$

3.

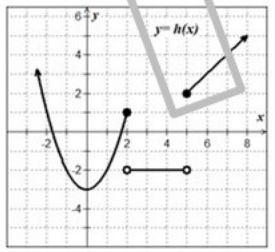


A. $\lim_{x\to -2} f(x) =$ **B.** $\lim_{x\to 0} f(x) =$

C. $\lim_{x\to 2^-} f(x) =$ **D.** $\lim_{x\to 5} f(x) =$

E. $\lim_{x\to 2^+} f(x) =$ **F.** $\lim_{x\to \infty} f(x) =$

4.



A. $\lim_{x\to -\infty} h(x) =$ **B.** $\lim_{x\to 2^-} h(x) =$

C. $\lim_{x\to 2^+} h(x) =$ **D.** $\lim_{x\to 5^-} h(x) =$

E. $h(5) =$ **F.** $\lim_{x\to \infty} h(x) =$

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Limits from Tables

Name _____

Use the table to find the limits. for each question.

1. The table of values from an exponential function is given below.

x	[illegible]	[illegible]	−3	−1	1	3	9
$f(x)$	515	35	11	5	3.5	3.125	3.002

A. $\lim_{x\to -\infty} f(x) =$ **B.** $\lim_{x\to -3} f(x) =$

C. $\lim_{x\to 1} f(x) =$ **D.** $\lim_{x\to \infty} f(x) =$

2. The table of values from a rational function is given below. Use the table to find the limits.

x	−1000	−1.001	−2	−1.999	0	2.999	3	3.001	1000
$g(x)$	1.998	1.600	Undefined	1.5999	1.333	−1.998	Undefined	2002	2.002

A. $\lim_{x\to -\infty} g(x) =$ **B.** $\lim_{x\to -2^-} g(x) =$ **C.** $\lim_{x\to -2^+} g(x) =$

D. $\lim_{x\to 3^-} g(x) =$ **E.** $\lim_{x\to 3} g(x) =$ **F.** $\lim_{x\to \infty} g(x) =$

3. The table of values from an exponential function is given below. Use the table to find the limits.

x	−12	−7	−3	−1	0	2	10
$h(x)$	−4047.5	−23.3	3.5	3.93	3.98	3.99	3.999

A. $\lim_{x\to -\infty} h(x) =$ **C.** $\lim_{x\to -3} f(x) =$

D. $\lim_{x\to 2} f(x) =$ **F.** $\lim_{x\to \infty} h(x) =$

4. The table of values from a rational function is given below. Use the table to find the limits.

x	−10	−2	−1	0	1	1.99	2	2.001	10
$k(x)$	0.0138	0.125	0.222	0.5	2	20000	Undefined	20000	0.03125

A. $\lim_{x\to -\infty} k(x) =$ **B.** $\lim_{x\to 0} k(x) =$ **C.** $\lim_{x\to 1} k(x) =$

D. $\lim_{x\to 2^-} k(x) =$ **E.** $\lim_{x\to 2^+} k(x) =$ **F.** $\lim_{x\to \infty} k(x) =$

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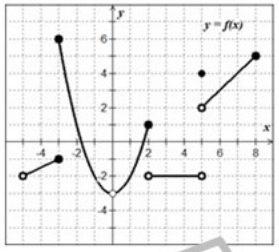
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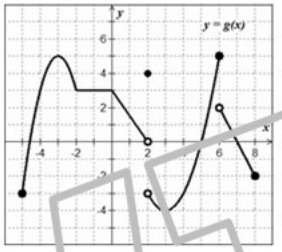
One-Sheet Wonder

Limits from Graphs and Tables

Name _____

Use the graphs of $f(x)$ and $g(x)$ and the table of values for $h(x)$ and $k(x)$ to find the limits.





x	-3		2	
$h(x)$	4	2	0	3
$h'(x)$	3	6	-2	-1
$k(x)$	0		1	0
$k'(x)$	5	-3	4	7

1. $\lim_{x \to -3^+} [f(x) \cdot g(x)]$

2. $\lim_{x \to 4} h(g(x))$

3. $\lim_{x \to 0} f(g(x))$

4. $\lim_{x \to -3} k(k(x))$

5. $\lim_{x \to 1} [x^2 + f(x - 1)]$

6. $\lim_{x \to 7} \sqrt{f(x)}$

7. $\lim_{x \to 2} \frac{g(x)}{h(x)}$

8. $\lim_{x \to 5} \frac{k(x)}{g(x)}$

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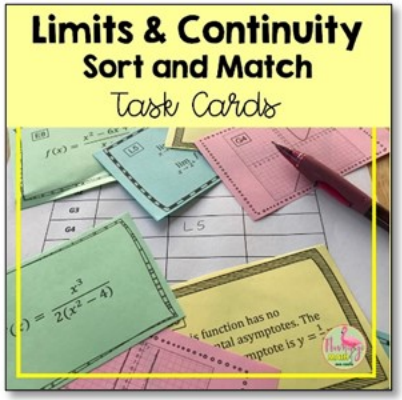
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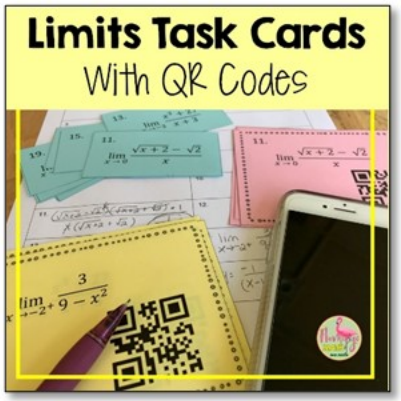


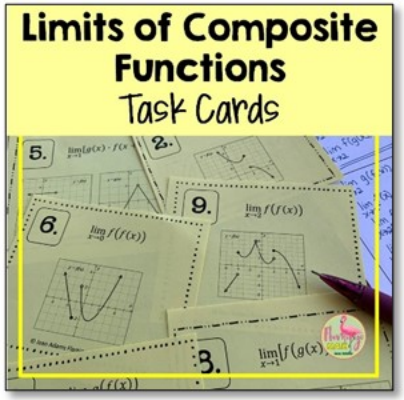
My goal is to help you bring balance into your teacher life by providing relevant content, engaging activities, and comprehensive assessments for your high-stakes math course.

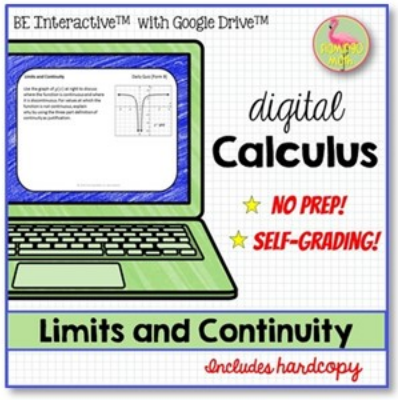
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More Resources for YOU









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