



Name _____

UNIT 1:
LIMITS &
CONTINUITY
HOMEWORK



Unit 1: Limits and Continuity

DAY	LESSON & OBJECTIVES	ASSIGNMENTS
1	Expectations and Course Introduction Day One Placemat	
2	1.1 Concept of Instantaneous Rate of Change <ul style="list-style-type: none"> Interpret rate of change at an instant in terms of average rates of change 	
3	1.2 Understanding Limits Graphically and Numerically <ul style="list-style-type: none"> Evaluate the limit, if it exists by graphical and numerical methods. Find one-sided limits and general limits 	
4	1.3 Properties of Limits <ul style="list-style-type: none"> Use properties of limits to evaluate graphically, numerically, and algebraically 	
5		
6	1.4 Finding Limits by Analytic Methods <ul style="list-style-type: none"> Evaluate limits analytically, including substitution, cancellation, rationalization, and special trig rules 	
7		
8	AP STYLE QUIZ #1	
9	1.5 Limits of Transcendental Functions <ul style="list-style-type: none"> Evaluate limits of exponential and trigonometric functions 	
10		
11	1.6 Limits and Continuity <ul style="list-style-type: none"> Apply the definition of continuity to determine whether a function is continuous at a point. 	
12		
13	Cooperative Activity of choice	
14	Infinite Limits and Limits at Infinity <ul style="list-style-type: none"> Compare and contrast infinite limits and limits at infinity Use properties of infinite limits to find asymptotes and describe function behavior. Use relative rates of growth of power, logarithmic, and exponential functions to analyze limits 	
15		

Unit 1: Limits and Continuity

DAY	OBJECTIVES	ASSIGNMENTS
16	1.8 Intermediate Value Theorem <ul style="list-style-type: none">Understand and apply the Intermediate Value Theorem	
17		
18	AP STYLE QUIZ #2	
19	Unit 1 Review	
20	Unit 1 Review	
21	Unit #1 Test Day 1 – Limits and Continuity (MC)	
22	Unit #1 Test Day 2 – Limits and Continuity (FRO)	

12. Does the IVT apply to the function $h(x) = \frac{x^2+x}{x-2}$ on the interval $[2.5, 5]$? If so, find the value of c guaranteed to exist, such that $h(c) = 12$.

13. Does the IVT apply to the function $f(x) = -\left(\frac{1}{2}\right)^{3-x} - 3$ on the interval $[2,5]$ for $f(c) = -4$?

_____ 14. Let f be a continuous function on the closed interval $[-2, 7]$. If $f(-2) = -3$ and $f(7) = 4$, then the Intermediate Value Theorem guarantees that

(A) $f(0) < 0$

(B) $-3 \leq f(x) \leq 4$ for all x
between -2 and 7 .

(C) $f(c) = 1$ for at least one c
between -2 and 7

(D) $f(c) = 0$ for at least one c
between -3 and 4