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| D.Q.’s | | Name | | Pd. |
| AP Calculus AB: Derivatives (1) | | | | |
| ***Unit Essential Question****:* ***What is a limit and how do I solve them?*** | | | | |
| Day | Lesson | | Assignment | |
| Day 1  Friday  O8.17.18 | What is the formal definition of a derivative and how does it involve a limit?  Standard: M.CALC.1.2 Derivatives: Define  The learner will be able to approximate the rate of change at a point, given the graph of a function or a table of values. define the derivative of a function in various ways. The limit of the difference quotient. The slope of the tangent line at a point. Instantaneous rate of change. The limit of the average rate of change.  Instruction: Go over homework, Discussion, & Group Practice  Differentiation: Individual pacing/questions. | |  | |
| Day 2  Monday  O8.2O.18 | What is the formal definition of a derivative and how does it involve a limit? Including Tangent Lines.  Standard: M.CALC.1.2 Derivatives: Define  The learner will be able to approximate the rate of change at a point, given the graph of a function or a table of values. define the derivative of a function in various ways. The limit of the difference quotient. The slope of the tangent line at a point. Instantaneous rate of change. The limit of the average rate of change.  Instruction: Go over homework, Discussion, & Group Practice  Differentiation: Individual pacing/questions. | | Supplement D2  2.7: Pgs. 150-51    5, 7, 18-20,  30, 33-38  2.8: Pg. 34a | |
| Day 3  Tuesday  O8.21.18 | How do you use the power rule to find the derivative of a function?  Standard: : M.CALC.1.4 Differentiation: Use/Rules  The learner will be able to use the rules of differentiation (power rule, product rule and quotient rule) with algebraic and transcendental functions.  Instruction:  Differentiation: | | 3.1: Pgs. 181-82  4-11, 13, 14, 16-20, 22, 23, 26, 29, 33-34 Plus 3 problems on back.    D.Q. Formal Def.  Derivative | |
| Day 4  Wednesday  O8.22.18 | How do you use the product and quotient rule?  Standard: M.CALC.1.4 Differentiation: Use/Rules  The learner will be able to use the rules of differentiation (power rule, product rule and quotient rule) with algebraic and transcendental functions.  Instruction:  Differentiation: Individual pacing/questions. | | 3.2: Pgs. 189-90  3, 4, 6-9, 11, 15, 17, 22, 28, 32, 44, 47, 49, 50, Plus 1 problem on back | |
| Day 5  Thursday  O8.23.18 | Derivatives of Trig. Function: How do you find the derivative of a trigometric function?  Standard: M.CALC.1.21 Functions: Transcendental/Rules  The learner will be able to apply the rules of integration to algebraic and transcendental functions.  Instruction: Go over homework, Discussion, & Group Practice  Differentiation: Individual pacing/questions. | | D.Q. Power Rule  Supplement: D5  3.3: Pgs. 197-8  1-6, 8, 12, 21, 22, 29, 32, 33, 34, & 49 | |
| Day 6  Friday  O8.24.18 | Derivatives Using Chain Rule: How do you find a derivative of a composite function?  Standard: M.CALC.1.21 , M.CALC.1.5 Differentiation: Chain Rule  The learner will be able to apply the chain rule to composite functions, and implicitly defined functions.  Instruction: Go over homework, Discussion, & Group Practice  Differentiation: Individual pacing/questions. | | D.Q. Product & Quotient    Supplement: D6  3.4: Pg. 205  7-15, 17-21 | |
| Day 7  Monday  O8.27.18 | Derivatives Using Chain Rule: How do you find a derivative of a composite function?  Standard: M.CALC.1.21 , M.CALC.1.5 Differentiation: Chain Rule  The learner will be able to apply the chain rule to composite functions, and implicitly defined functions.  Instruction: Go over homework, Discussion, & Group Practice  Differentiation: Individual pacing/questions. | | D.Q. Trig. Derivatives  Supplement: D7  3.4: Pgs. 205-7  16, 22-25, 29, 32, 33, 47, 63, 65,  84 a & b, & 86 | |
| Day 8  Tuesday  O8.28.18 | Derivatives of Natural Logs & Exponentials: How do you take a derivative of a natural log function and Exponential functions?  Standards: M.CALC.1.5 ,M.CALC.3.5 Integration: Natural Log  The learner will be able to interpret the natural log ( ln x ) as the area under the curve of the function f(x) = 1/x.  Instruction: Go over homework, Discussion, & Group Practice  Differentiation: Individual pacing/questions | | D.Q. Chain Rule  Supplement: D8 | |
| Day 9  Wednesday  O8.29.18 | How do you solve any kind of derivative?  Standard: M.CALC.1.21 M.CALC.1.5 , M.CALC.1.6 **,**  M.CALC.3.5  Instruction: Go over homework, Discussion, & Group Practice  Differentiation: Individual pacing/questions. | | Activity  Review for test | |
| Day 10  Thursday  O8.3O.18 | How do you solve any kind of derivative?  Standard: M.CALC.1.21 M.CALC.1.5 , M.CALC.1.6 **,**  M.CALC.3.5  Instruction: Go over homework, Discussion, & Group Practice  Differentiation: Individual pacing/questions. | | Review for Test | |
| Day 11  Friday  O8.31.17 | How do you solve any kind of derivative?  Standard: M.CALC.1.21 M.CALC.1.5 , M.CALC.1.6 **,**  M.CALC.3.5  Instruction: Go over homework, Discussion, & Group Practice  Differentiation: Individual pacing/questions. | | Test: Derivatives | |

Notebook grade: 

Day 3

1.  Find 

2.  Find 

3. Find an equation of the tangent line to the curve at the given point.

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Day 4

1. Find  and . 