Open Response Types

I know that open response can be difficult. I wanted to give you a structured note page with examples and notes/solutions

Type One Charts

Time ( sec) 0 2 4 6 8 10 12

Temp( f) 12 23 30 40 44 60 70

1. What is t prime at 5? 7? 11?

The approximation of the derivative is the average rate of change. SO the approximation for 5/

5 is in the middle of 4 and 6 so we use that interval

(40-30)/ ( 6-4) = 5 degrees Fahrenheit/ second MUST NAME UNIT . TRY THE OTHER TWO.

B) LEFT RIEMANN SUM. START FROM THE LEFT

12(2) + 23(2) + 30 (2) + 40 (2) + 44(2) + 60 ( 2) = 418 TO GET THE AVERAGE DIVIDE BY THE INTERVAL LENGTH WHICH IS 12. 418/12 = 34.833 DEGREES FAHRENHEIT. This will be an underestimate since the function is strictly increasing

1. Right Riemann sum- start from the right

70(2) + 60(2) + 44(2)+40(2)+30(2)+23(2)= = 530 DIVIDE BY 12 TO GET THE AVERAGE 44.167 DEGREES FAHRENHEIT. THIS IS AN OVER ESTIMATE.

C) MIDPOINT RIEMANN SUM USE THE MIDPOINTS. THERE ARE 3 MIDPOINTS

2, 6, AND 10 ARE THE MIDPOINTS

23(4) + 40 ( 4) + 60(4) = 492 DIVIDE BY 12 TO GET 41 DEGREES FAHRENHEIT

D) TRAPEZOIDAL