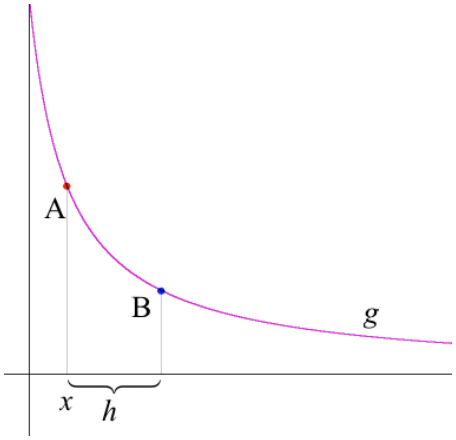
MAT 270 Name_____
Quiz 7 Recitation Day & Time_____

1. Points A and B on the graph of g define an interval of width h. The horizontal coordinate of A is x.

a) Represent the coordinates of points A and B. Write each ordered pair on the graph by its respective point. (Note: A and B are only labels; they don't have values.)

b) Write an expression for the constant rate of change that realizes the same change in y as g for the given interval of width h. Put it in the large box below. ↓



$\square$ = $\square$

↑

c) (Part c's answer goes in the small box above at left.) If x varies and h is constant, the expression you wrote in b) is a function of x. Use appropriate notation we've learned to name / define this function.

2. Make a rough sketch of the function you defined in #1 (for all x, not just the paused value shown in the given graph).

3. a) Given an accumulation function whose output is given as $c(x)$, write the general form of c's rate of change function. $r_c(x) =$

b) If $c(x) = x\ \sin(x)$, rewrite your expression from part a) by applying the rule of c. $r_c(x) =$

c) The rate of change of c is represented in closed form as $r_c(x) = \sin x + x\cos x$. Use this fact to represent c in open form. (i.e. as an integral.) $c(x) =$

4. Suppose f is an accumulation function, and $f(-3) = 5$ and $r_f(-3) = 10$ (when h is really small).

a) Explain in a sentence(s) the meaning of the rate of change value given above.

b) Use the information given to estimate the value of $f(-2.8)$. (Don't hunt for a procedure or method to reproduce. Do it yourself by applying meanings of ROC and the given values/info!)

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Do not turn this sheet over until you are instructed to begin.