

Name _____

Mathematics 105D: Calculus I
Fall Semester 2012
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Quiz #8

Suppose $f(x) = 1/x$.

A. $f(a + h) =$

B. $f(2 + h) =$

C. $f(2) =$

D. Use your answers to B and C to write down $\frac{f(2+h)-f(2)}{h}$ without simplifying.

E. Your answer to D will have two fractions in the numerator. Put them over a common denominator and simplify the resulting fraction:

F. Use your answer to E. to evaluate $\lim_{h \rightarrow 0} \frac{f(2+h)-f(2)}{h}$:

G. Even if you couldn't get part F, you should be able to explain the graphical significance of your answer to F: