

## Math 2250 Quiz 1

Name \_\_\_\_\_ Section \_\_\_\_\_

*Points will be deducted for untidy or disorganized answers*

1. (5 points) Let

$$f(x) = \frac{1}{x^2}.$$

- (a) Calculate the *instantaneous* rate of change of  $f$  at the point  $(a, f(a))$ , that is evaluate the limit

$$\lim_{h \rightarrow 0} \frac{f(a+h) - f(a)}{h}.$$

- (b) Write down the equation of the tangent line to the curve  $y = f(x)$  at the point where  $x = 2$ .