

MATH 152 Quiz 3

Class time:

Name:

Student number:

Show all work. 5 points each.

1) Write the improper integral as the limit of a proper integral, determine if it converges or diverges and find the value if it converges. Must show the antiderivative for full credit.

$$\int_0^{\infty} 4e^{-4x} dx$$

2) Let $f(x, y) = 9x^2 - 3y^2$ compute $\frac{f(x+h, y) - f(x, y)}{h}$.

1pt extra credit what is $\lim_{h \rightarrow 0} \frac{f(x+h, y) - f(x, y)}{h}$