MATH 101
QUIZ 3A

Name: **Serial No.**   section:

1. Find the value of a and b, such that the line $3x + y = b$ is tangent to the parabola $y = ax^2$ when $x = -2$?

2. Find the y-intercept of the normal line to the graph of

$$y = \frac{1 - 3x}{1 - 6x}, \quad \text{at } x = \frac{1}{3}$$

3. Evaluate the following limit

$$\lim_{h \to 0} \frac{5x^2}{2x - 2x \cos x + 2 \sin^2(3x)}$$

4. Find the derivative of the function $f(x)$ and $f'(1)$ where

$$f(x) = 2^{\sqrt{2x+3}} \sqrt{2x + 3}$$