

Quiz #7**Name:** _____**StudentID:** _____**Major:** _____**Time:** 20 minutes.

Justify your solutions and show all your steps. Write down formulae used. Make sure to look on the back side of this sheet.

1. Find any horizontal and vertical asymptotes for the function

$$y = \frac{2x}{x-3}.$$

2. Find any vertical and horizontal asymptotes for the function

$$y = \frac{4x}{9-x^2}.$$

3. Find the derivative of the function

$$y = \frac{\ln x}{x}.$$

4. Find the derivative of the function

$$y = \log_2(1 - x - x^2).$$