

QUIZ#1 Math202, sec 08

Net Time Allowed: 20 minutes

Name:

ID # :

section:

Exercise1:

Determine whether Theorem 1.1 guarantees that the differential equation  $y' = \sqrt{y^2 - 9}$  possesses a unique solution through the point  $(2, -3)$ . Justify your answer .

**solution:**

Exercise2:

Solve the initial value problem:  $\frac{dx}{dt} = 4(x^2 + 1)$ ,  $x(\frac{\pi}{4}) = 1$ .

**solution:**