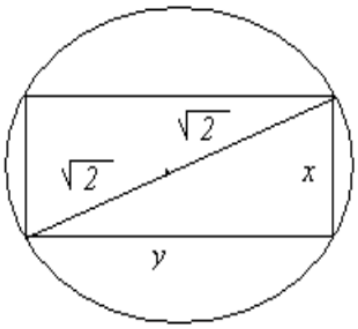
# Department of Mathematics and Statistics KFUPM
# MATH 101-08 Quiz#6, Time: 40 mins

Student's Name: _____ ID: _____Section No: _____

Class Time: _____ Instructor's Name: _____

Q.No.1:- Find the dimensions of the rectangle of greatest area that can be inscribed in a circle of radius $\sqrt{2}$.



Q.No.2:- Use the Newton's method to estimate the one real solution of $x^3 + 3x + 1 = 0$. Start with $x_0 = 0$ and show that $x_2 = -\frac{29}{90}$.

Q.No.3:- A particle is moving with $a(t) = t^2 - 4t + 6$ where $s(0) = 0$ and $s(1) = 20$. Find the position function $s(t)$ of the particle.