**Colorado Technical University**

**Course:** MATH205 – Differential Calculus

#### Unit 07 Part 13 Readings – Optimization

**Optimization**

In optimization problems we are looking for the largest value or the smallest value that a

function can take

One kind of optimization problem is the extrema - the largest and smallest value that a function

would be on an interval

Now we will be looking for the largest or smallest value of a function subject to some kind of

constraint

The constraint can usually be described by some equation

**The constraint must absolutely, positively be met** no matter what the solution is

How to solve them:

1) Draw a picture

2) What are you trying to maximize/minimize?

3) Find an equation relating the variables

4) What is the constraint equation?

5) Combine the two equations

6) Find the derivative

7) Set = 0 and solve

8) Is it the max or min you want?

9) If not, try the endpoints of the interval

