

Math 12

Vogler

Maximum and Minimum Examples

- 1.) A rectangle with length x and width y has a perimeter of 20 ft. Find the dimensions and area of this rectangle with largest area.
- 2.) Let x and y be two numbers whose sum is 100. Find both numbers such that the sum of the squares is greatest.
- 3.) A rectangular pen is build against a wall (i.e. one side is the wall and doesn't require fencing). The two sides with equal lengths (touching the wall) cost \$20/ft to fence and the third side (parallel to wall) cost \$10/ft to fence. If the total cost of the fence is \$4,000, what dimensions will result in a pen with the largest area?
- 4.) Find the point (x, y) on the graph $y = -2x + 5$ which is nearest the origin?