

SECTION 4.7 OPTIMIZATION (DAY 1)

1. A Framework for Approaching Optimization

- (a) Identify the quantity to be minimized or maximized.
- (b) Chose notation and explain what it means.
- (c) Write the thing you want to maximize or minimize **as a function of one variable**, including a reasonable **domain**.
- (d) Use calculus to answer the question and *justify* that your answer is correct.

Read the problem two or three times. Draw pictures. Label them. Pick specific numerical examples, to make the problem concrete. Be creative. Try more than just one approach. Organization matters.

2. Find two positive numbers whose sum is 110 and whose product is a maximum.

3. A rancher has 800 feet of fencing with which to enclose three adjacent rectangular corrals. See figure below. What dimensions should be used so that the enclosed area will be a maximum?

