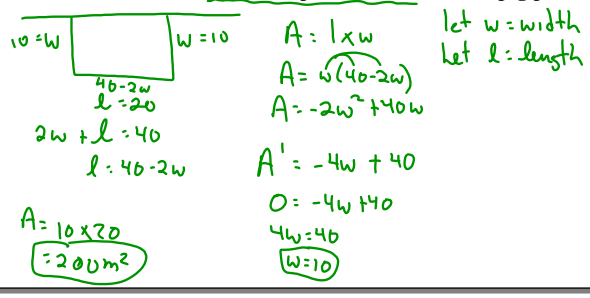
Joe has 40 m of fencing to make a rectangular pig pen. The barn will act as one side of the pen, so no fencing is required on that side. What is the maximum possible area for the pig pen.



Apr 28-7:29 PM

Calculus 120
Unit 4: Applications of Differentiation

May 7, 2019: Day #9

1. ~~Assignment Due~~ ✓
2. Quiz Returned
3. New Assignment

Jan 9-1:43 PM

Curriculum Outcomes

C8: Use Calculus techniques to sketch the graph of a function.

C9: Use Calculus techniques to solve optimization problems

C11: Use Calculus techniques to solve problems involving related rates.

Jan 24-9:32 AM

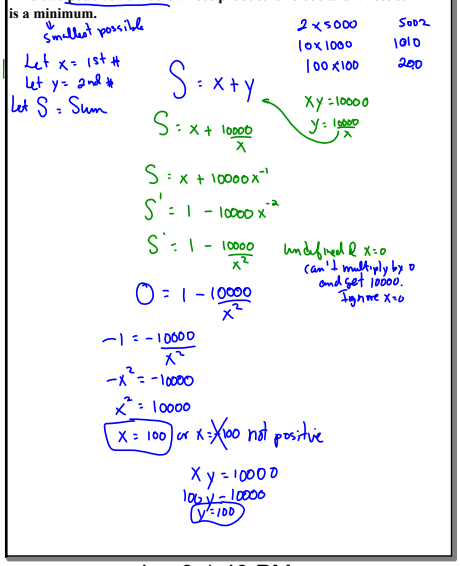
Optimization (Max/Min Problems)

One of the most powerful applications of derivatives is their usefulness in solving optimization problems, in which quantities must be maximized or minimized.

Distribute Optimization Problem Steps.

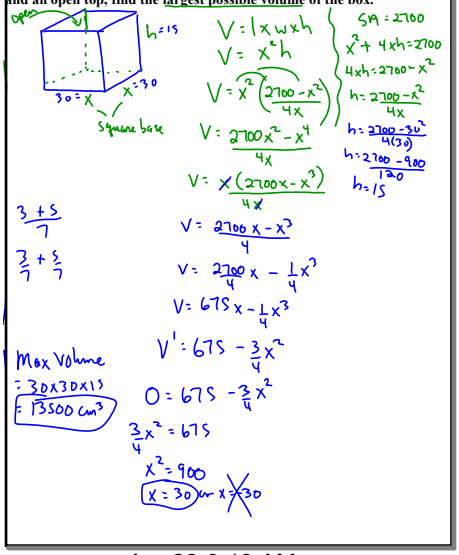
Apr 28-8:56 AM

Find two positive numbers whose product is 10 000 and whose sum is a minimum.



Jan 9-1:43 PM

If 2700 cm² of material is available to make a box with a square base and an open top, find the largest possible volume of the box.



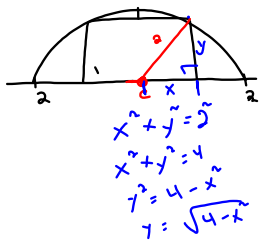
Apr 28-9:13 AM

An open-top box is to be made by cutting squares of side length x from the corners of a 20 by 25 inch sheet of tin and bending up the sides. How large should the squares be to make the box hold as much as possible. What is the resulting maximum volume?

Apr 28-12:06 PM

Find the points on the parabola $y = 6 - x^2$ that are closest to the point (0, 3).

Apr 28-9:20 AM



$A = l \times w$

$A = 2xy$

$A = 2x\sqrt{4-x^2}$

$x^2 + y^2 = 2^2$

$x^2 + y^2 = 4$

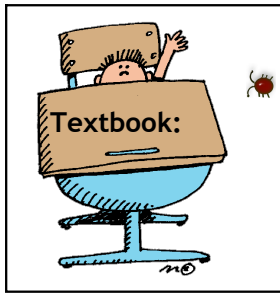
$y^2 = 4 - x^2$

$y = \sqrt{4-x^2}$

May 7-10:50 AM

You have been asked to design a one-litre (1000 cm³) oil can shaped like a right circular cylinder. What dimensions will use the least material?

Apr 28-12:47 PM



Assignment!

Jan 13-9:38 PM

Attachments

2.1_74_AP.html

2.1_74_AP.swf

2.1_74_AP.html