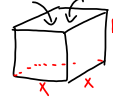


W R M B P

Box with Square Base and open top p. 189 #5

$V = 4000 \text{ cm}^3$

Find the dimensions that minimize the material used S.A.



$S.A. = x^2 + 4xh$

$SA = x^2 + 4x\left(\frac{4000}{x^2}\right)$

$SA = x^2 + \frac{16000}{x}$

$SA' = 2x - 16000x^{-2}$

$0 = 2x - \frac{16000}{x^2}$

$\frac{16000}{x^2} = 2x$

$2x^3 = 16000$

$x^3 = 8000$

$x = 20$

Box is $20 \times 20 \times 10$

$V = x^2 h$

$4000 = x^2 h$

$h = \frac{4000}{x^2}$

$h = \frac{4000}{20^2}$

$h = \frac{4000}{400} = 10$

Apr 28-7:29 PM

Calculus 120
Unit 4: Applications of Differentiation

May 15, 2019: Day #12

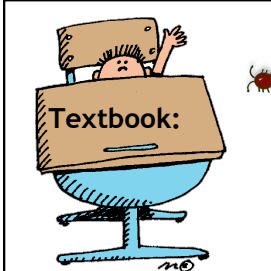
1. Quick quiz tomorrow...one optimization problem
2. Last work period on optimization...related rates tomorrow!
3. Assignment Due

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.

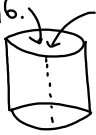
Jan 24-9:32 AM



Assignment!

Jan 13-9:38 PM

16.

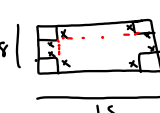


$SA = \pi r^2 + 2\pi r h$

$V = 1000 \text{ cm}^3$

$V = \pi r^2 h$

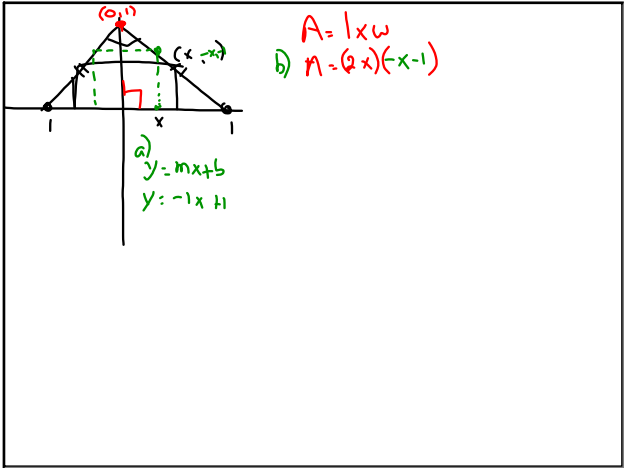
May 15-10:09 AM



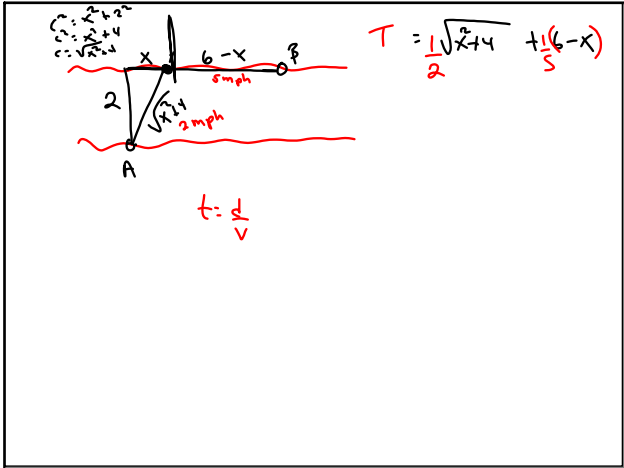
$V = l \times w \times h$

$V = (15-2x)(8-2x)$

May 15-10:29 AM



May 15-10:31 AM



May 15-10:44 AM

Attachments

2.1_74_AP.html



2.1_74_AP.swf



2.1_74_AP.html