

- 3) The profits of Mr. Unlucky's company can be represented by the equation, where $y = -3x^2 + 18x - 4$, where y is the amount of profit in hundreds of thousands of dollars and x is the number of years of operation. He realizes his company is on the downturn and wishes to sell before he ends up in debt. Use your graphing calculator, as needed. Round solutions to the nearest hundredth.

- a) When will Unlucky's business show the maximum profit?

time

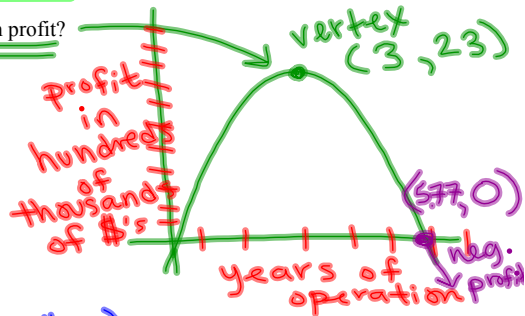
3 years

- b) What is the maximum profit?

\$2,300,000
(23 hundred thousand \$'s)

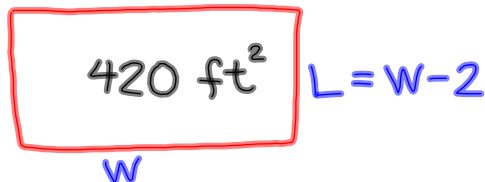
- c) At what time will it be too late to sell his business? (When will he start losing money?)

after 5.77 years



- 4) Mr. Jackson had a rectangular shaped garden where the length was 2 feet less than the width. The area of the garden was 420 square feet. Use your graphing calculator, as needed. Round solutions to the nearest hundredth.

- a) Draw a picture that represents the situation described above. Label the diagram.



- b) What is the formula for the area of a rectangle?

Area = Width · Length

- c) Write an equation to represent the area of the garden.

$$420 = W \cdot (W - 2)$$

- d) Write the equation in standard form.

$$420 = W^2 - 2W$$

$$0 = W^2 - 2W - 420$$

$$y = ax^2 + bx + c$$

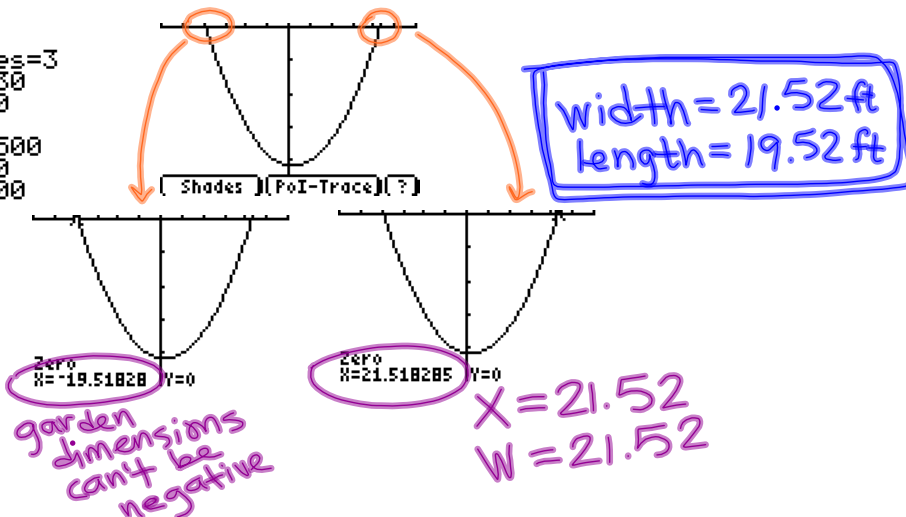
$$W \begin{matrix} W & -2 \\ \hline W^2 & -2W \end{matrix}$$

$$W(W - 2)$$




- e) What are the dimensions of the garden?

→ I need to figure out W
Solve equation... Solution = Zeros = roots = x-intercepts

WINDOW
ShadeRes=3
Xmin=-30
Xmax=30
Xscl=5
Ymin=-500
Ymax=10
Yscl=100



HOMework:

Date Covered	LT Number	Learning Target (LT) (What you should know)	Practice Problems	Homework Score	Self-Evaluation (Do you know it?)
Tues 1/20	5.1	I can solve a quadratic equation by graphing	5.1A #1, 3-7, 9 (P-1) *#8 for E.C.		  
Wed 1/21			5.1A #11, 13, 15, 18 (P-1)		
Thur 1/22			5.1B #1, 3, 5, 6 (P-5)		