

APPLICATION OF FUNCTIONS

What is this Difference Quotient thing?

- $$\frac{f(x+h) - f(x)}{h}, h \neq 0$$

$$\frac{f(x + \Delta x) - f(x)}{\Delta x}, \Delta x \neq 0$$

What??? This may help...

Assignment

Applications

p76: 94, 95*, 100, 102, 103*, 105, 107, 108*

* We are going to go through in class

p88: 60-72 multiples of 3

*95 Create a function

Write the area A of a circle as a function of its circumference.

$$A(c) = \frac{c^2}{4\pi}$$

*103

The inventor of a new hand-held video game estimates that the variable cost for producing the game is \$0.95 per unit and the fixed costs are \$6000.

The inventor sells each game for \$14.99. Let x be the number of games sold.

a) The total cost for a business is the sum of the variable cost and the fixed cost. Write the total cost C as a function of the number of games sold.

b) Write the average cost per unit $\bar{C} = C/x$ as a function of x .

*108

The height y (in feet) of a baseball thrown by a child is

$$y = -\frac{1}{10}x^2 + 3x + 6$$

where x is the horizontal distance (in feet) from where the ball was thrown.

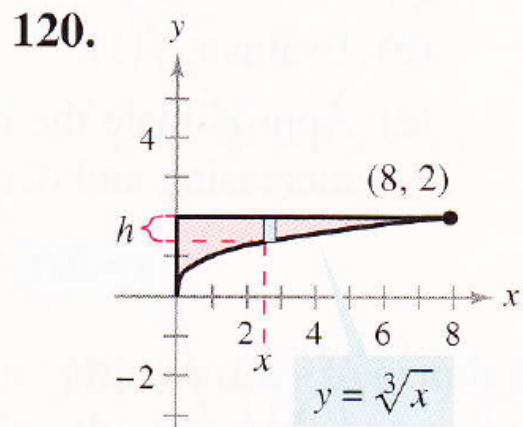
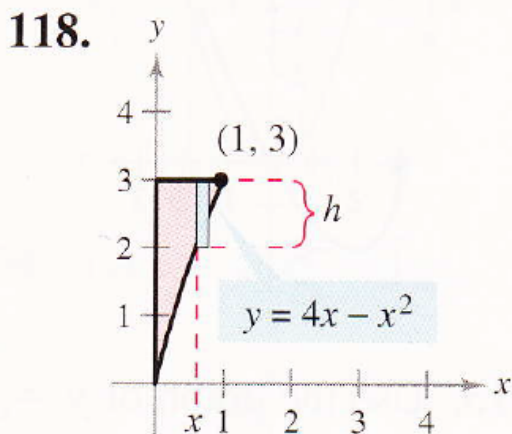
Will the ball fly over the glove of another child 30 feet away trying to catch the ball?

(Assume that the child who is trying to catch the ball holds a baseball glove a height of 3 feet.)

Yes it flies over his/her head

p90

Write the height h of the rectangle as a function of x .



Quiz on Monday...

- Identify functions (Graphically, Algebraically, and Algebraically)
- Finding function value,
- Finding domain and range
- Using function notation ($f(x) = 0$, $f(x) = g(x)$, difference quotient, etc)