

## Pre-Calc AB Worksheet #53 : Answers

- Initial: 50,000 gallons of water.  
Final: 30,000 gallons of water
  - During the first and fourth day
  - On the fifth day
  - $f(2) = 45$  thousands gallons of water
  - 20,000 gallons of water
- When  $0 \leq x \leq 3$ , slope is 5 means inlet pipe is open, outlet pipe is closed.

When  $3 < x \leq 5$ , slope is 2 means both pipes are open.

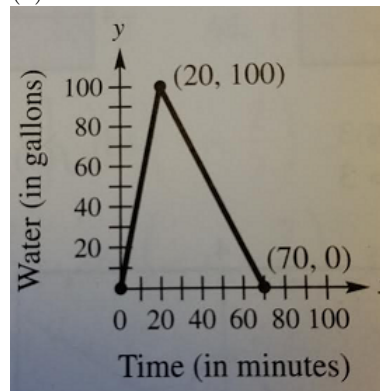
When  $5 < x \leq 8$ , slope is 0 means both pipes are closed.

When  $8 < x \leq 10$ , slope is -3 means inlet pipe is closed, outlet pipe is open.
- Put on board.
  - Deepest in February at 26 inches.
  - Greatest rate of increase in snow depth from November to February. Greatest rate of decrease in snow depth from beginning of April to mid April.

4. (a) \$1.25

$$(b) f(x) = \begin{cases} 0.5 & \text{if } 0 < x \leq 1 \\ 0.5 - 0.25\lceil 1 - x \rceil & \text{if } 1 < x \leq 5 \end{cases}$$

5. (a)



$$(b) w(t) = \begin{cases} 5t & \text{if } 0 \leq t \leq 20 \\ -2t + 140 & \text{if } 20 < t \leq 70 \end{cases}$$

6. (a) Put on board.

$$(b) d(t) = \begin{cases} 40t & \text{if } 0 \leq t \leq 0.5 \\ 20 & \text{if } 0.5 < t \leq 2.5 \\ -20t + 70 & \text{if } 2.5 < t \leq 3.5 \end{cases}$$