Classwork 3

College Algebra and Trigonometry, MTH 123, Section 3260, Fall 2011

Instructor: Abhijit Champanerkar

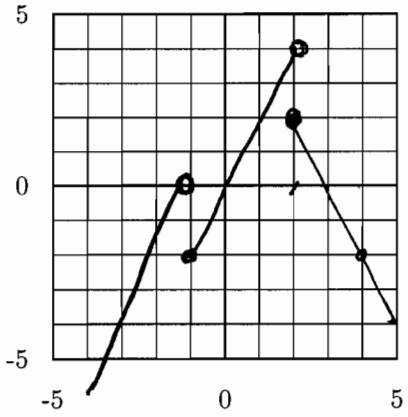
Sept 14th 2011

Name: SOLUTIONS

1.

$$f(x) = \begin{cases} 6-2x & \text{if} \quad x \geq 2 \\ 2x & \text{if} \quad -1 \leq x < 2 \\ -2-2x & \text{if} \quad x < -1 \end{cases}$$

Evaluate $f(4), f(2), f(0), f(-1), f(-4)$. Sketch the graph of $y = f(x)$.



$f(4) = 6-2\times4 = -2$

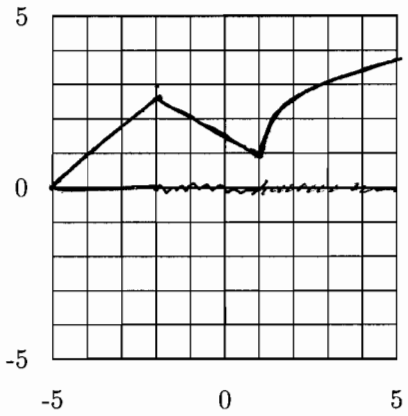
$f(2) = 6-2\times2 = 2$

$f(0) = 2\times0 = 0$

$f(-1) = 2\times(-1) = -2$

$f(-4) = -2-2(-4) = 6$

2. Draw a graph of a function which is increasing on the interval $[-5,-2]$, decreasing on the interval $(-2,1]$ and increasing on the interval $(1,5]$.



3. Without sketching the graph say whether the function $f(x) = 1-3x$ increasing or decreasing.

Graph of $y = 1-3x$ is a straight line.

Slope $= -3 \Rightarrow$ decreasing