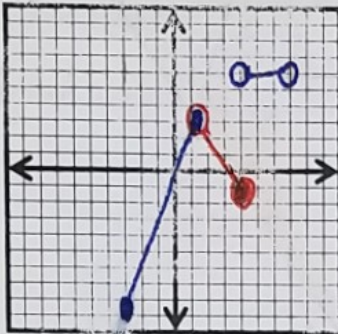


Notes (1.3) --- Piecewise Functions

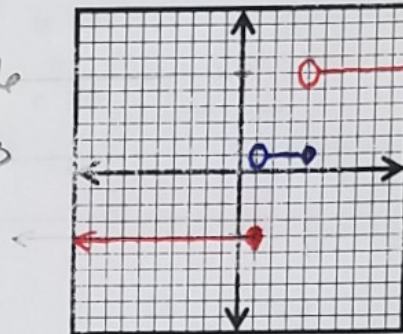
1) Graph $f(x) = \begin{cases} 3x & , -3 \leq x \leq 1 \\ -2x+5 & , 1 < x \leq 4 \\ 6 & , 4 < x < 7 \end{cases}$
 then find $f(4)$, $f(-2)$, $f(6.4)$.

Evaluate



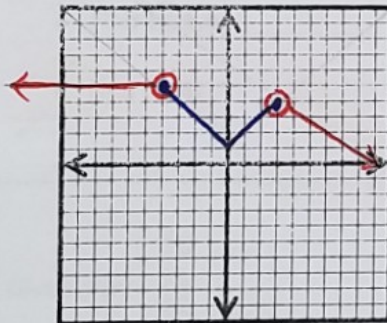
$f(6.4) = 6$
 $f(-2) = (3(-2)) = -6$
 $f(4) = -2(4) + 5 = -3$

2) Graph $f(x) = \begin{cases} -4 & , x \leq 1 \\ 1 & , 1 < x \leq 4 \\ 6 & , x > 4 \end{cases}$
 then find $f(0)$, $f(1)$, $f(6.1)$



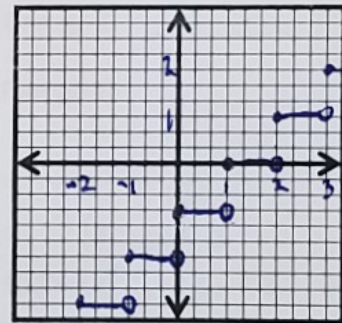
$f(0) = -4$
 $f(1) = -4$
 $f(6.1) = 6$

3) Graph $h(x) = \begin{cases} 5 & , x < -4 \\ |x|+1 & , -4 \leq x \leq 3 \\ -\frac{2}{3}x+6 & , x > 3 \end{cases}$
 then find $f(4)$, $f(-2)$, $f(6.4)$.



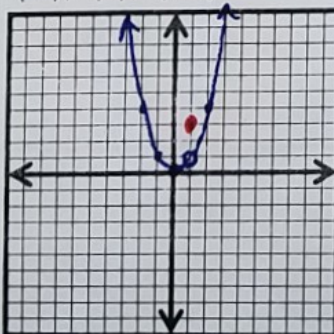
$f(4) = -\frac{2}{3}(4) + 6 = \frac{10}{3}$
 $f(-2) = 3$
 $f(6.4) = -\frac{2}{3}(6.4) + 6 = -\frac{12.8}{3} + \frac{18}{3} = \frac{5.2}{3}$

4) Graph $d(x) = [x] - 3$ *step function*
 then find $f(0)$, $f(1)$, $f(6.1)$.



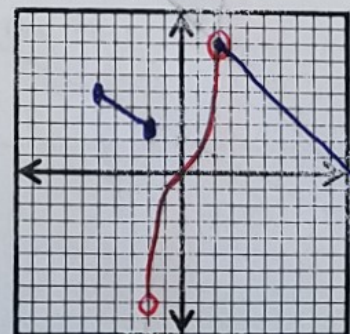
$f(0) = -3$
 $f(1) = -2$
 $f(6.1) = 3$

5) Graph $g(x) = \begin{cases} 3 & , x = 1 \\ x^2 & , x \neq 1 \end{cases}$
 then find $f(-2)$, $f(1)$, $f(1.5)$.



$f(-2) = 4$
 $f(1) = 3$
 $f(1.5) = 2.25$

6) Graph $f(x) = \begin{cases} -\frac{1}{2}x+2 & , -5 \leq x \leq -2 \\ x^3 & , -2 < x < 2 \\ -x+10 & , 2 \leq x < \end{cases}$
 then find $f(-4.2)$, $f(-1)$, $f(2)$.



$f(4.2) = 4.1$
 $f(-1) = -1$
 $f(2) = 8$