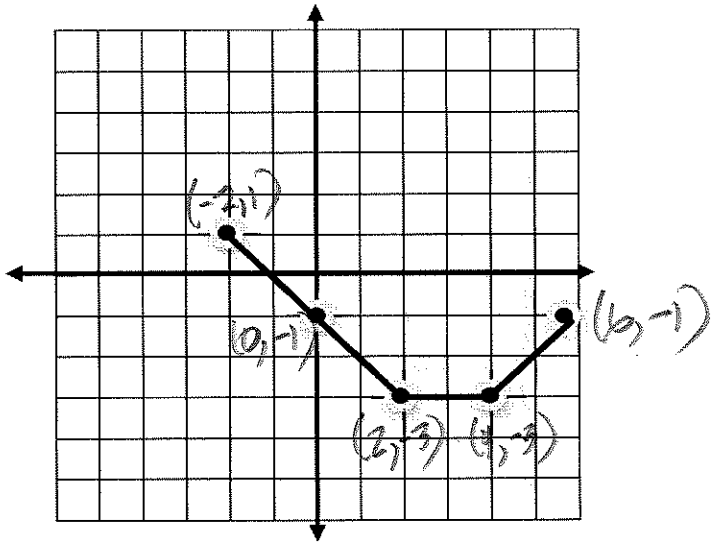
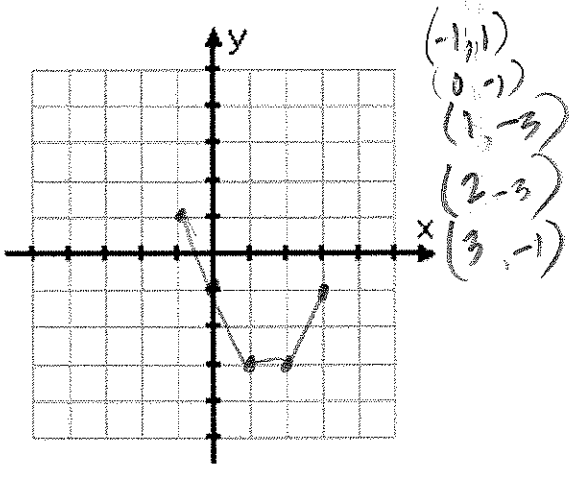
35) Graph the following "parent" function. f(x)=

(-2,1)
(0,-1)
(2,-3)
(4,-3)
(6,-1)

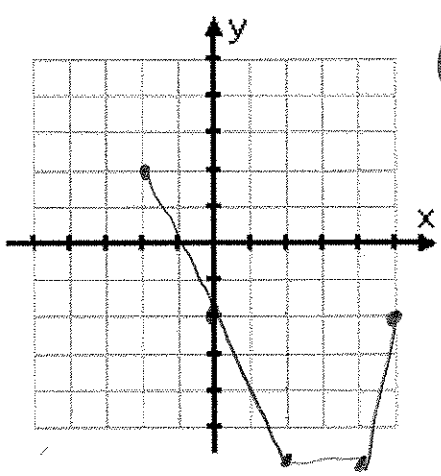


Now graph the following functions which are transformations of the parent function above.

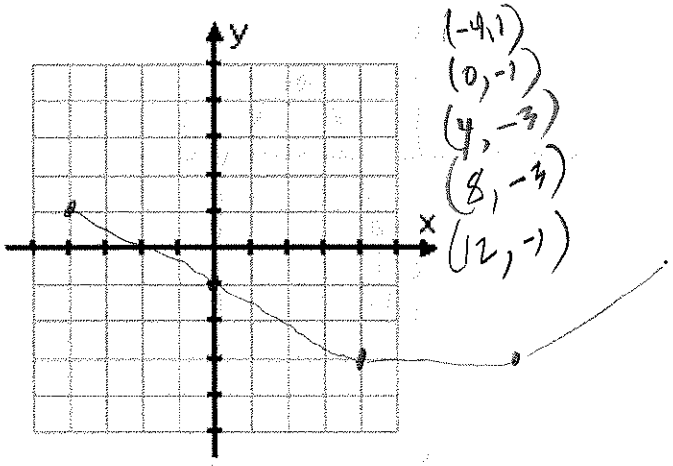
a. $g(x) = f(2x)$ $\left(\frac{1}{2}x, y\right)$



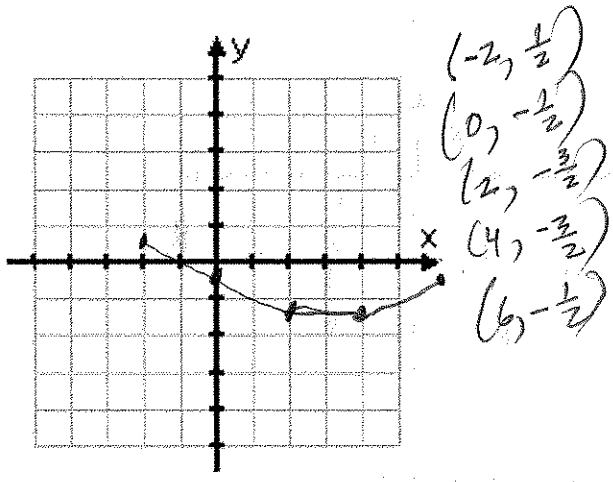
b. $h(x) = 2f(x)$ $(x, 2y)$



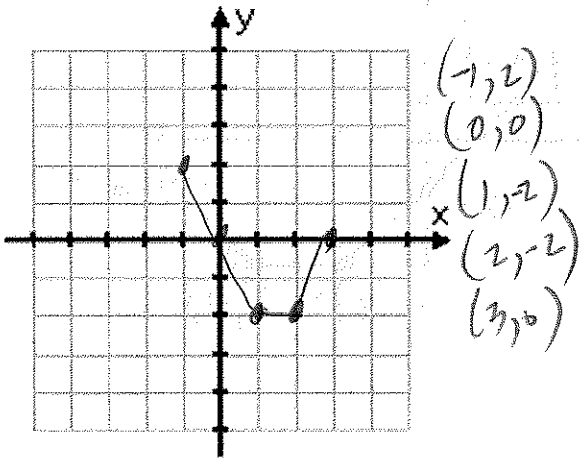
c. $P(x)=f\left(\frac{1}{2}x\right)$ $(2x, y)$



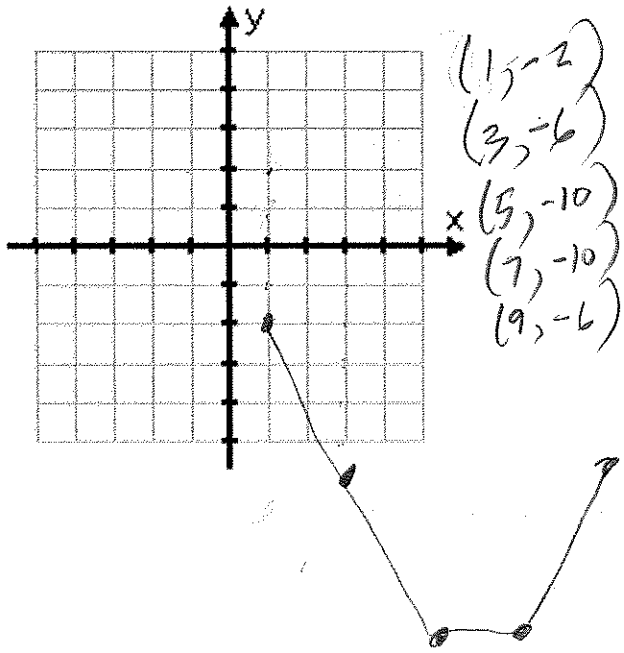
d. $Q(x)=\frac{1}{2}f(x)$ $(x, \frac{1}{2}y)$



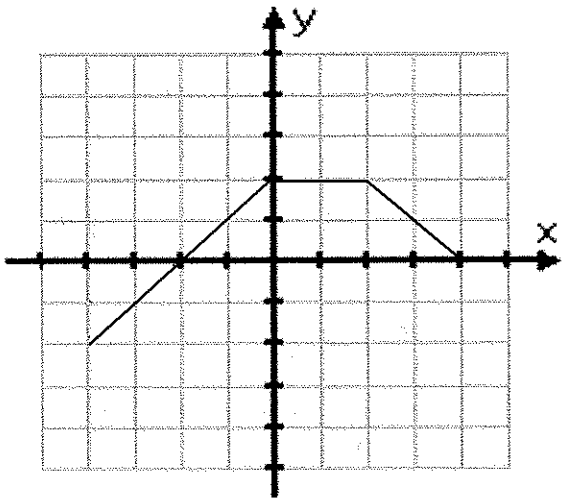
e. $g(x)=f(2x)+1$ $(\frac{1}{2}x, y+1)$



f. $h(x)=2f(x-3)-4$ $(x+3, 2y-4)$



36) Given the following function, graph each of the given transformations.(hint: Write out in words 1st, what is the transformation on the parent function?)

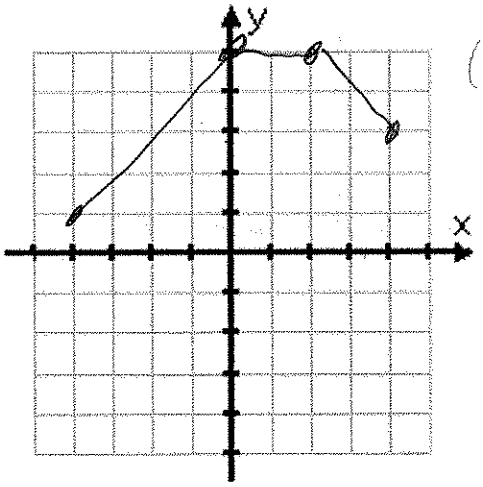


Also, write some key ordered pairs on the original parent graph first here :

(-4,2)
(0,2)
(2,2)
(4,0)

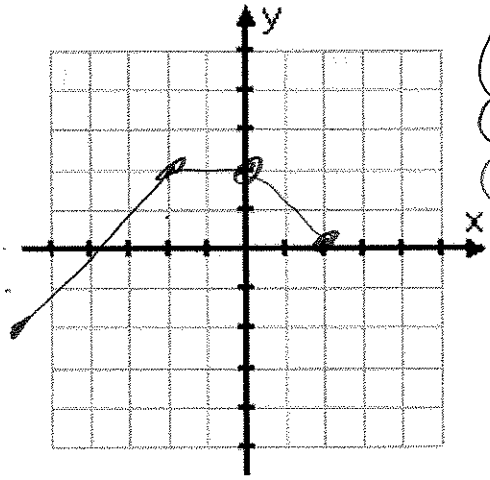
Now for a through i, graph the transformations of the parent graph above.

a. $F(x)=f(x)+3$ $(x, y+3)$



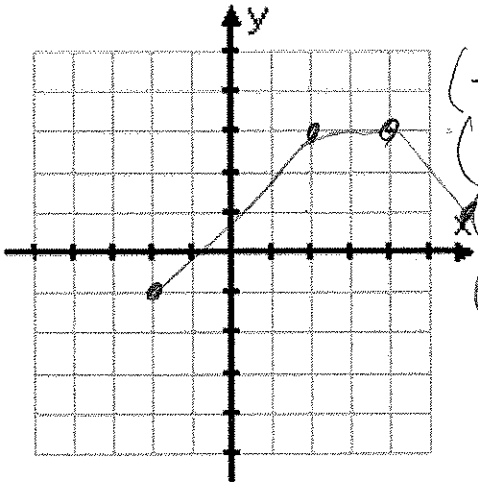
(-4,1)
(0,5)
(2,5)
(4,3)

b. $G(x)=f(x+2)$ $(x-2, y)$



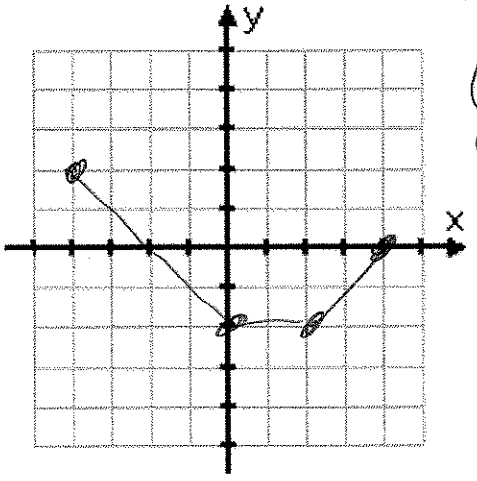
(-6,2)
(-2,2)
(0,2)
(2,0)

c. $k(x)=f(x-2)+1$ $(x+2, y+1)$



(-2,-1)
(2,3)
(4,3)
(6,1)

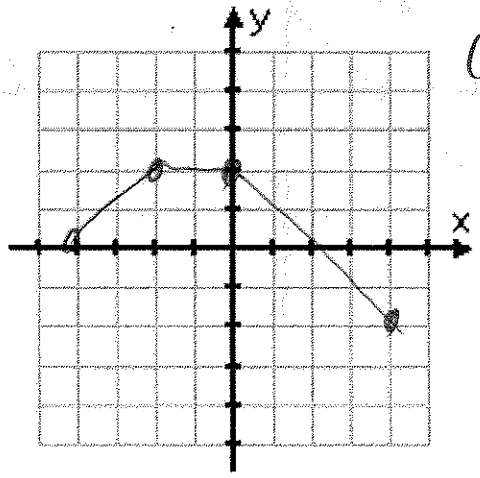
d. $M(x)=-f(x)$ $(x,-y)$



(-4,2)
(0,-2)
(2,-2)
(4,0)

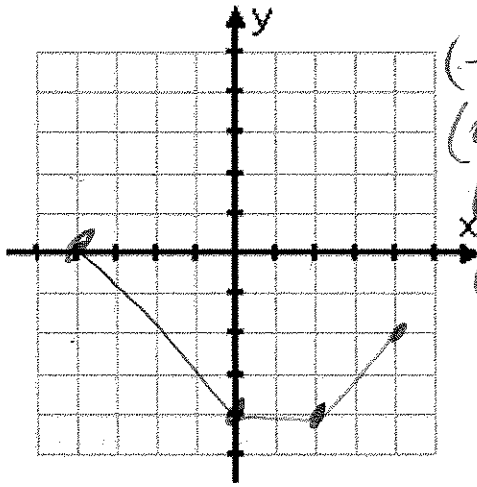
(-4,-2)
(0,2)
(2,2)
(4,0)
} original

e. $D(x) = f(-x)$ $(-x, y)$



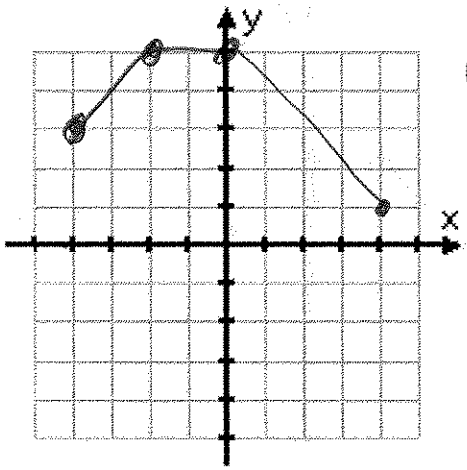
(4,-2)
(0,2)
(-2,2)
(-4,0)

f. $Q(x) = -f(x) - 2$ $(x, -y-2)$



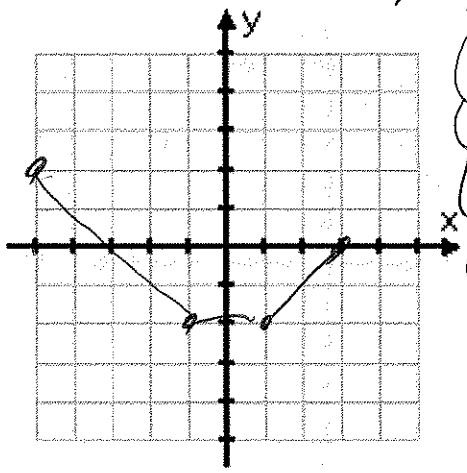
(-4,0)
(0,-4)
(2,-4)
(4,-2)

g. $L(x) = f(-x) + 3$ $(-x, y+3)$



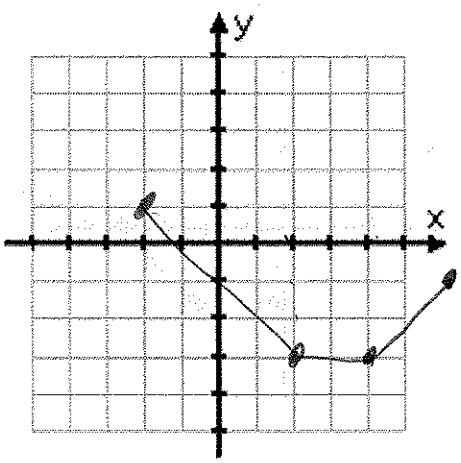
(4,1)
(0,5)
(-2,5)
(-4,3)

h. $j(x) = -f(x+1)$ $(x-1, -y)$



(-5,2)
(-1,-2)
(1,-2)
(3,0)

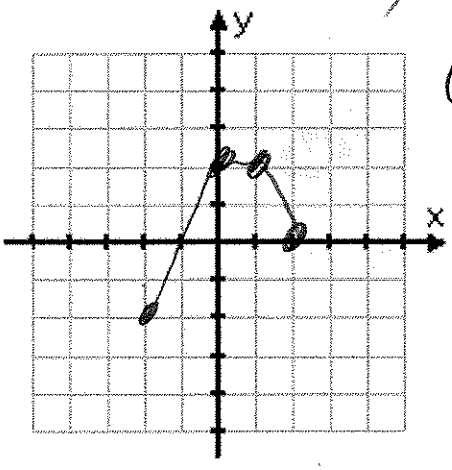
i. $j(x) = -f(x-2) - 1$ (a fun one!! You got this!! Write out the NEW ordered pairs first)



$(x+2, -y-1)$
$(-2,1)$
$(2,-3)$
$(4,-3)$
$(6,-1)$

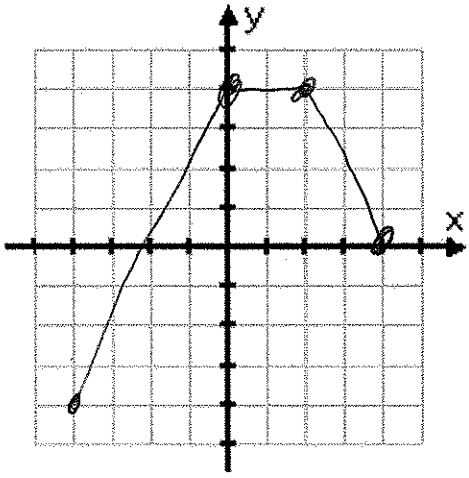
(-4, -2)
(0, 2)
(2, 2)
(4, 0)
} original

j. $g(x) = f(2x)$ $\left(\frac{1}{2}x, y\right)$



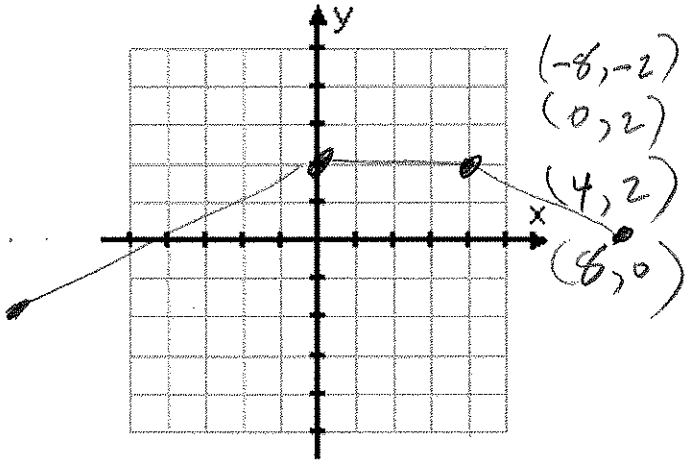
(-2, -2)
(0, 2)
(1, 2)
(2, 0)

k. $h(x) = 2f(x)$ $(x, 2y)$



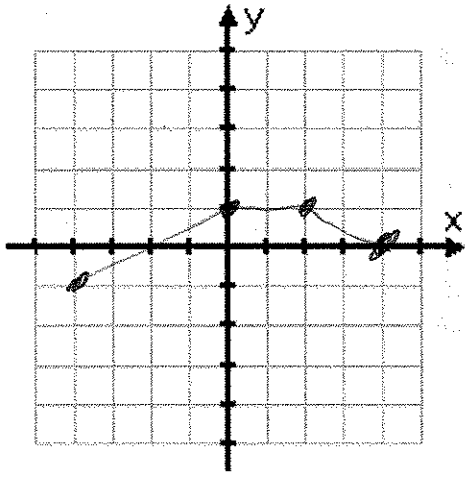
(-4, -4)
(0, 4)
(2, 4)
(4, 0)

l. $P(x) = f\left(\frac{1}{2}x\right)$ $(2x, y)$



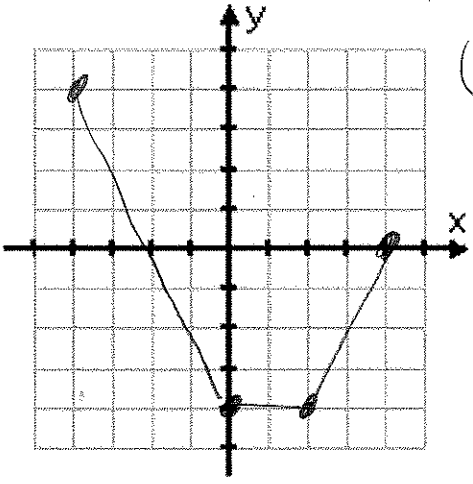
(-8, -2)
(0, 2)
(4, 2)
(8, 0)

m. $Q(x) = \frac{1}{2}f(x)$ $\left(x, \frac{1}{2}y\right)$



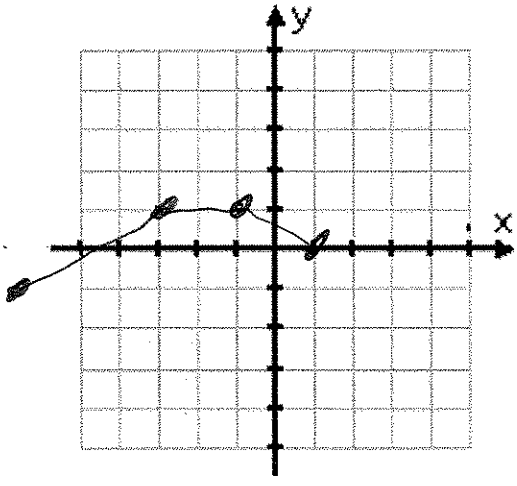
(-4, -1)
(0, 1)
(2, 1)
(4, 0)

n. $L(x) = -2f(x)$ $(x, -2y)$



(-4, 4)
(0, -4)
(2, -4)
(4, 0)

o. $j(x) = \frac{1}{2}f(x+3)$ $\left(x-3, \frac{1}{2}y\right)$

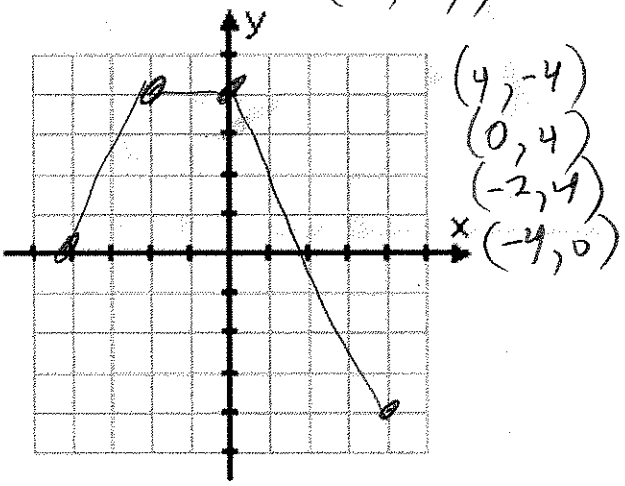


(-7, -1)
(-3, 1)
(-1, 1)
(1, 0)

(-4,-2)
(0,2)
(2,2)
(4,0) } original

p. $M(x) = 2f(-x)$

(-x, 2y)

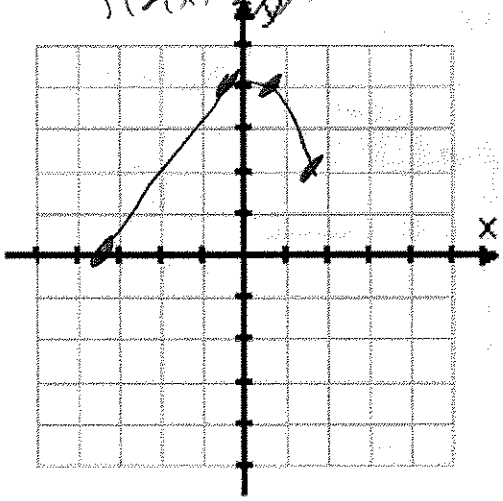


(4,-4)
(0,4)
(-2,4)
(-4,0)

q. $M(x) = f(2x+1)+2$

$f(2(x+\frac{1}{2}))+2$

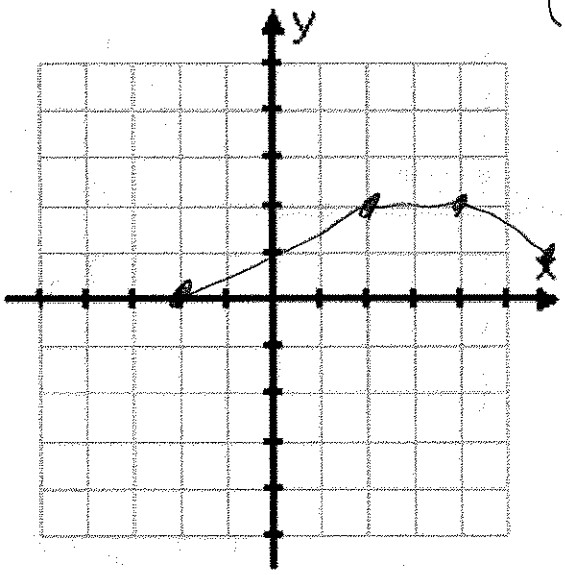
$(\frac{1}{2}x-\frac{1}{2}, y+2)$



$(-\frac{5}{2}, 0)$
$(-\frac{1}{2}, 4)$
$(\frac{1}{2}, 4)$
$(\frac{3}{2}, 2)$

r. $k(x) = \frac{1}{2}f(x-2)+1$ (Be sure to write out all the NEW ordered pairs first!)

$(x+2, \frac{y}{2}+1)$



(-2, 0)
(2, 2)
(4, 2)
(6, 1)

Be sure to know how to do every problem in this packet prior to the Chapter 1 Test. Much of it is review, but ask questions to be sure you remember everything!