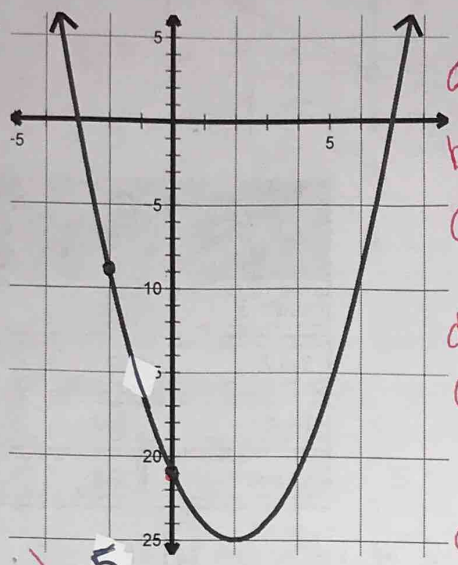
HW #8 Ch 1A Review Name: _____

For each graph, find the information:

a. domain b. range c. $x-$int(s) d. $y-$int(s) e. positive interval f. negative interval

g. increasing interval h. decreasing interval i. rate of change over the interval $[-2,0]$.

1.



a) $(-\infty,\infty)$

b) $[-25,\infty)$

c) $(-3,0)$ & $(7,0)$

d) $(0,-21)$

e) $(-\infty,-3)$ & $(7,\infty)$

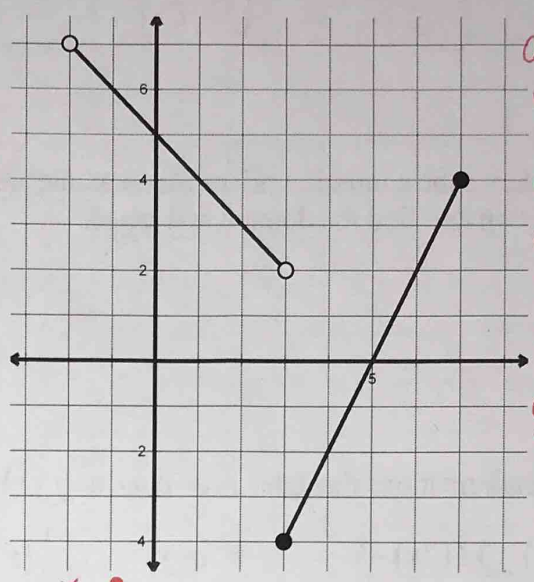
f) $(-3,7)$

g) $(2,\infty)$

h) $(-\infty,2)$

i) -5

2.



a. $(-2,7]$

b. $[-4,7)$

c. $(5,0)$

d. $(0,5)$

e. $(-2,3)$ & $(5,7)$

f. $[3,5)$

g. $(3,7)$

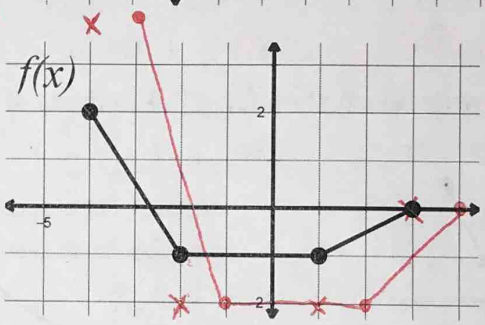
h. $(-2,3)$

i. -1

3. Given the graph of $f(x)$, sketch $2f(x-1)$.

VD by 2

R1



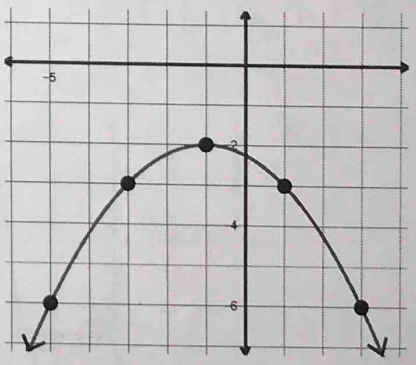
4. What transformations of $y=x^2$ combine to result in the given graph. Choose all that apply.

a. translation left 1 b. translation 1 right

c. translation 2 up d. translation 2 down

e. horizontal dilation BAFO 2 f. vertical dilation BAFO 2

g. reflection over the $x-$axis h. reflection over the line $x=1$



5. What is the equation for the function graphed in #4?

$y=-\left(\frac{1}{2}(x+1)\right)^2-2$

6. For each function, list the transformations and sketch a complete graph.

a. $g(x)=-2|x-3|$

over x-axis

VD 2, R3

b. $g(x)=\left|\frac{1}{2}x\right|+3$

HD 2, U3

7. Given the parent function $y=x^2$, what is the new equation if the function is translated 8 right and 11 down?

$y=(x-8)^2-11$

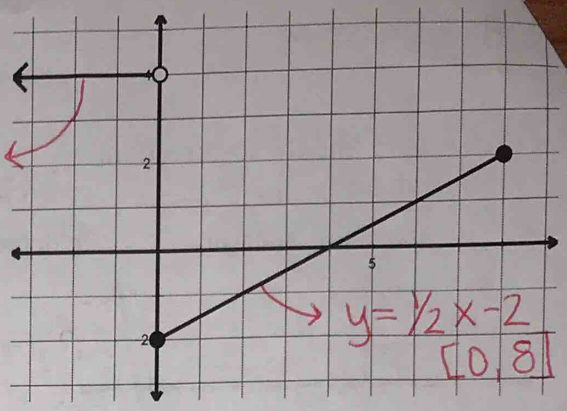
8. Sketch a complete graph of the piecewise function. Then state the domain and range.

$$f(x)=\begin{cases} 2, & -4\le x\le -2 \\ x+2, & -2<x<3 \\ -3x+12, & 3\le x\le 5 \end{cases}$$

D: $[-4,5]$

R: $[-3,5)$

9. Write the equation of the piecewise function graphed.



$$f(x)=\begin{cases} 4 & (-\infty,0) \\ \frac{1}{2}x-2 & [0,8] \end{cases}$$

10. The table shows the admission prices for an amusement park. Graph the function and find the domain and range.

Age	Admission Price
under 5	free
5–17	$25
18–64	$40
65 and over	$35

11. List the transformations that have been done to $f(x)$ to get $g(x)$.

a. $g(x)=3f(7x)-9$

VD 3, HD 1/7, D9

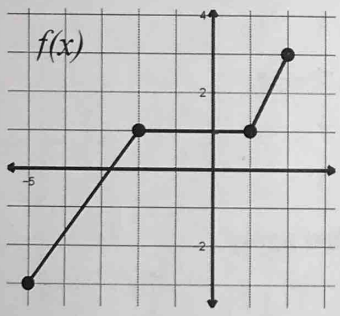
b. $g(x)=-f\left(\frac{1}{2}(x-10)\right)$

over x-axis, HD 2, R10

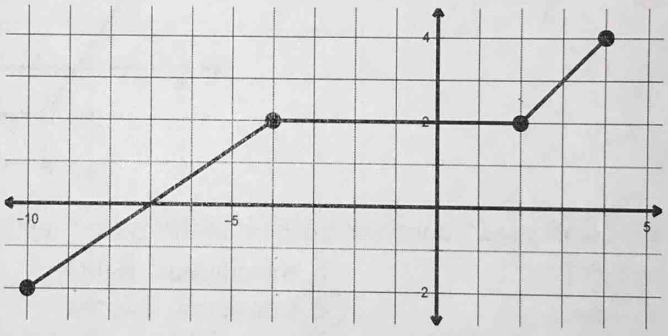
c. $g(x)=\frac{2}{3}f(x+24)+8$

VD 2/3, L24, U8

12. For each graph, write an equation for $g(x)$ in terms of $f(x)$. **CHALLENGE**



a.

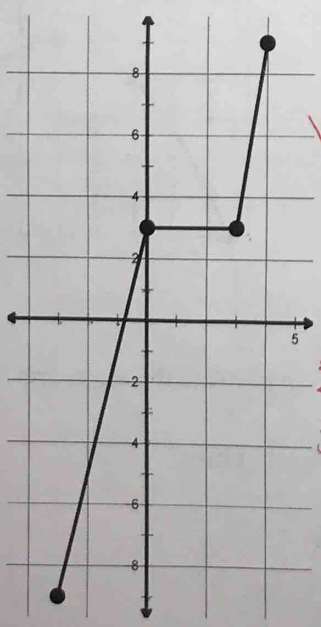


HD2

U1

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

b.



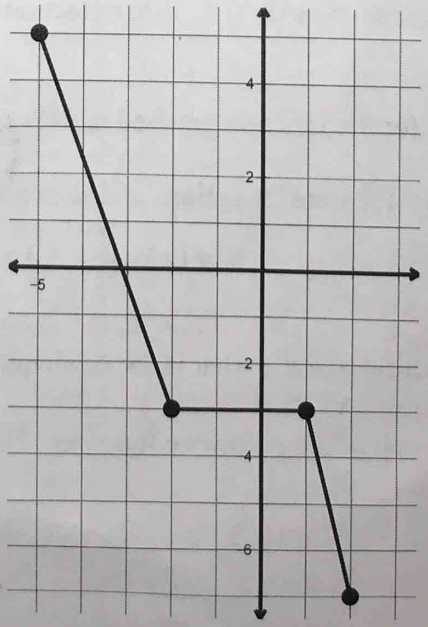
VD3

R2

~~2f(x)~~

$3f(x-2)$ 2

c.



over x-axis

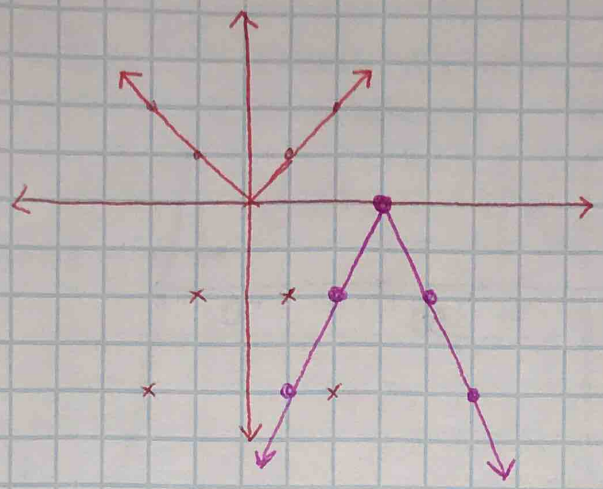
VD2

D2

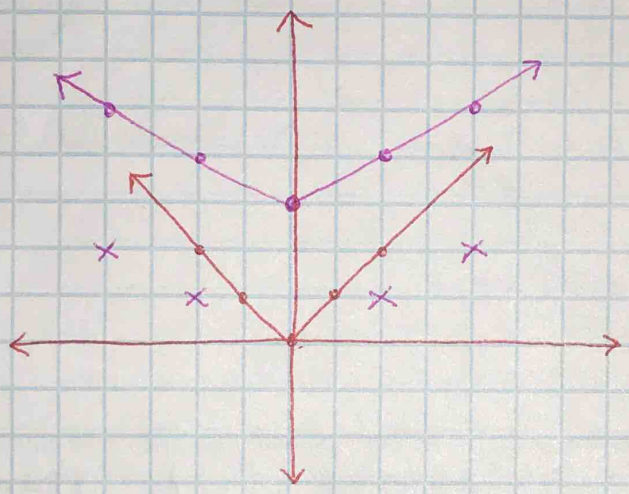
$-2f(x)-2$

HW9 ≡ final A2

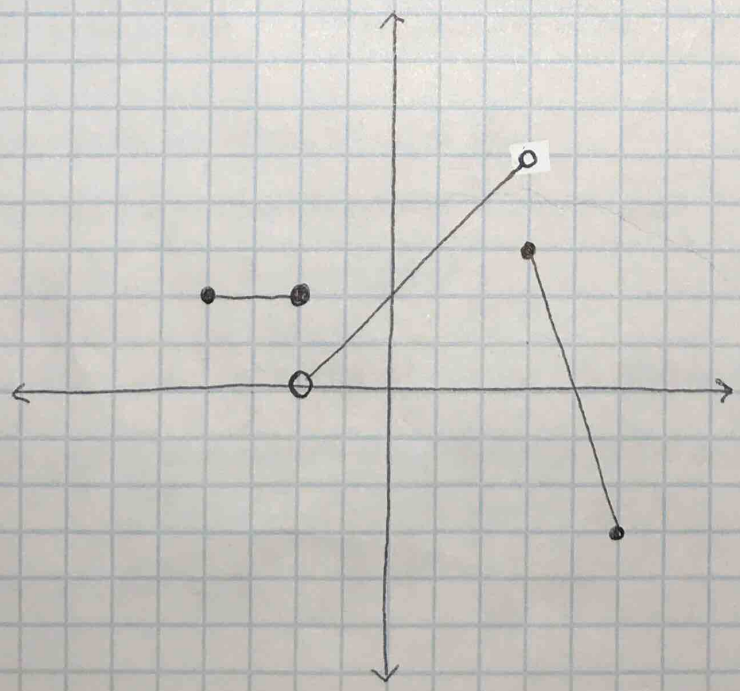
6. a)



b)



8.



$y = -2 + 2 = 0$
$(-2, 0)$

$y = 3 + 2 = 5$
$(3, 5)$

$y = -3(3) + 12$
$y = 3 \quad (3, 3)$

$y = -3(5) + 12$
$y = -3 \quad (5, -3)$

10.