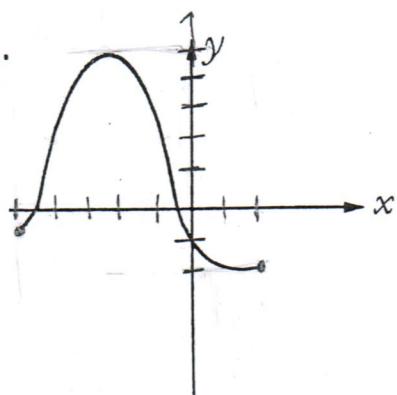


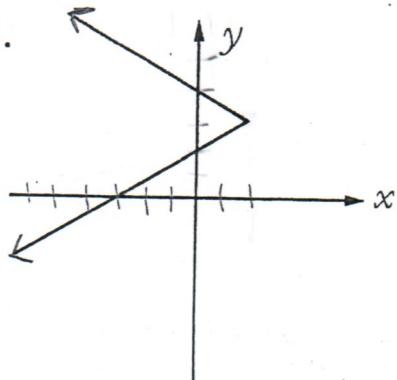
Draw each of these graphs in your notebook

Are these graphs of *functions*? Explain. Then Find Domain & Range

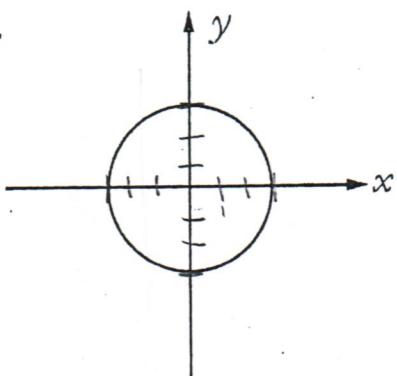
A.



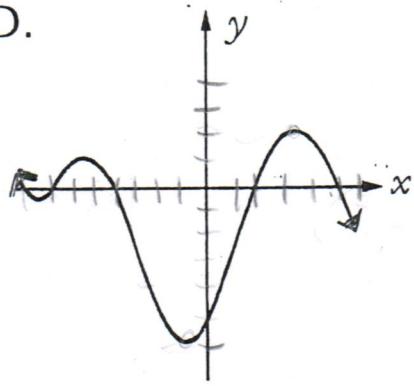
B.



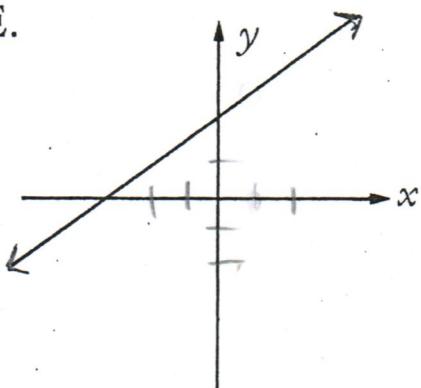
C.



D.

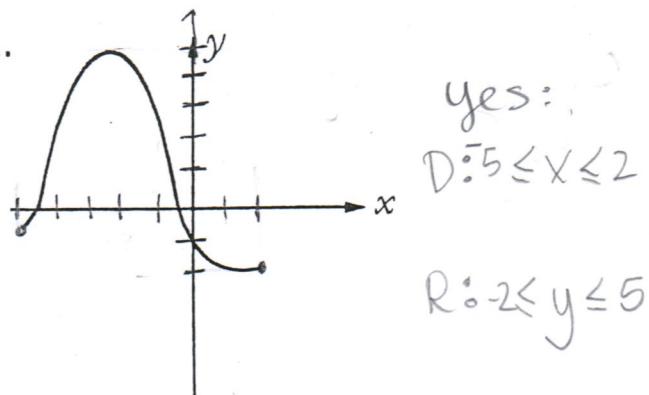


E.

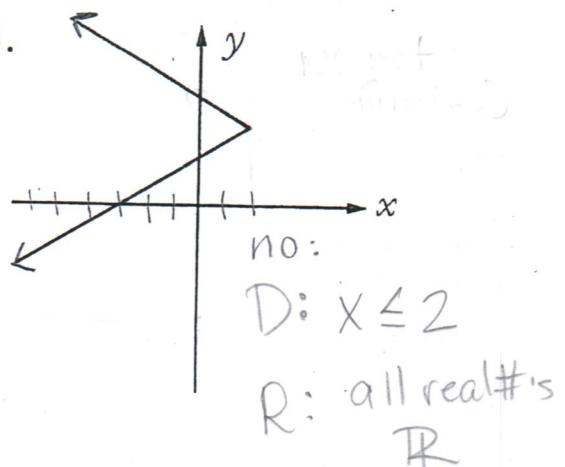


Are these graphs of *functions*? Explain. Then Find Domain & Range

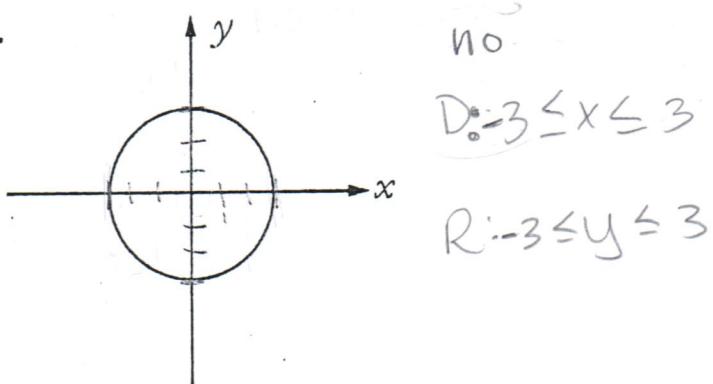
A.



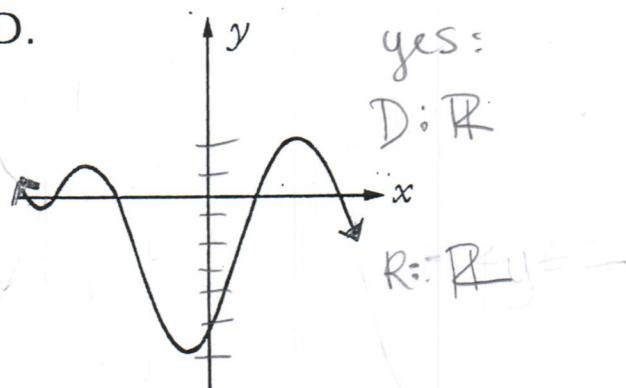
B.



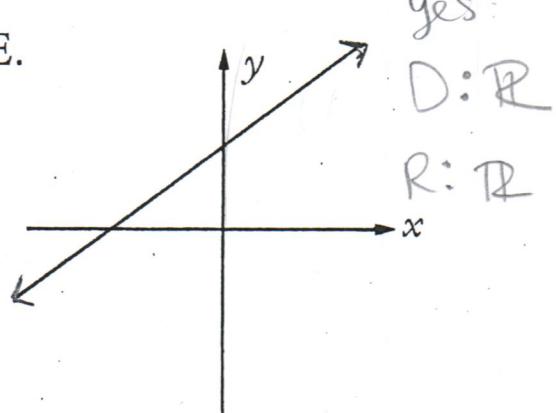
C.



D.



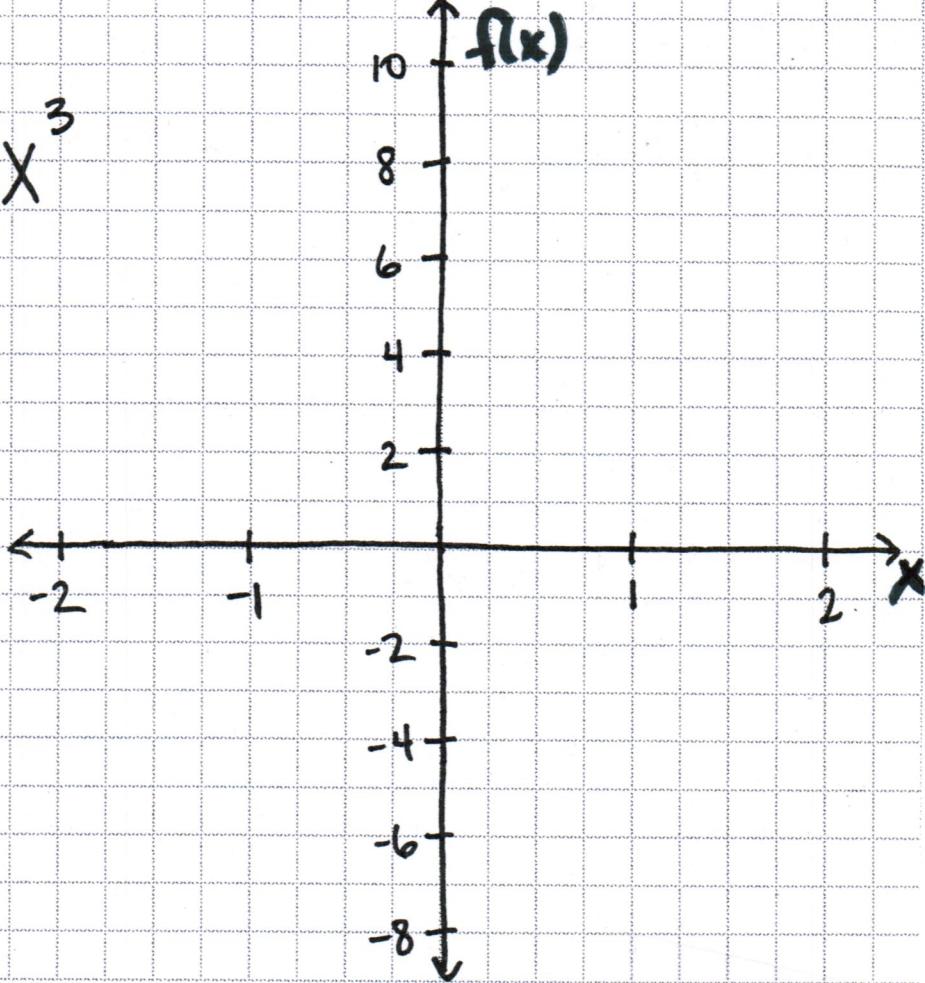
E.



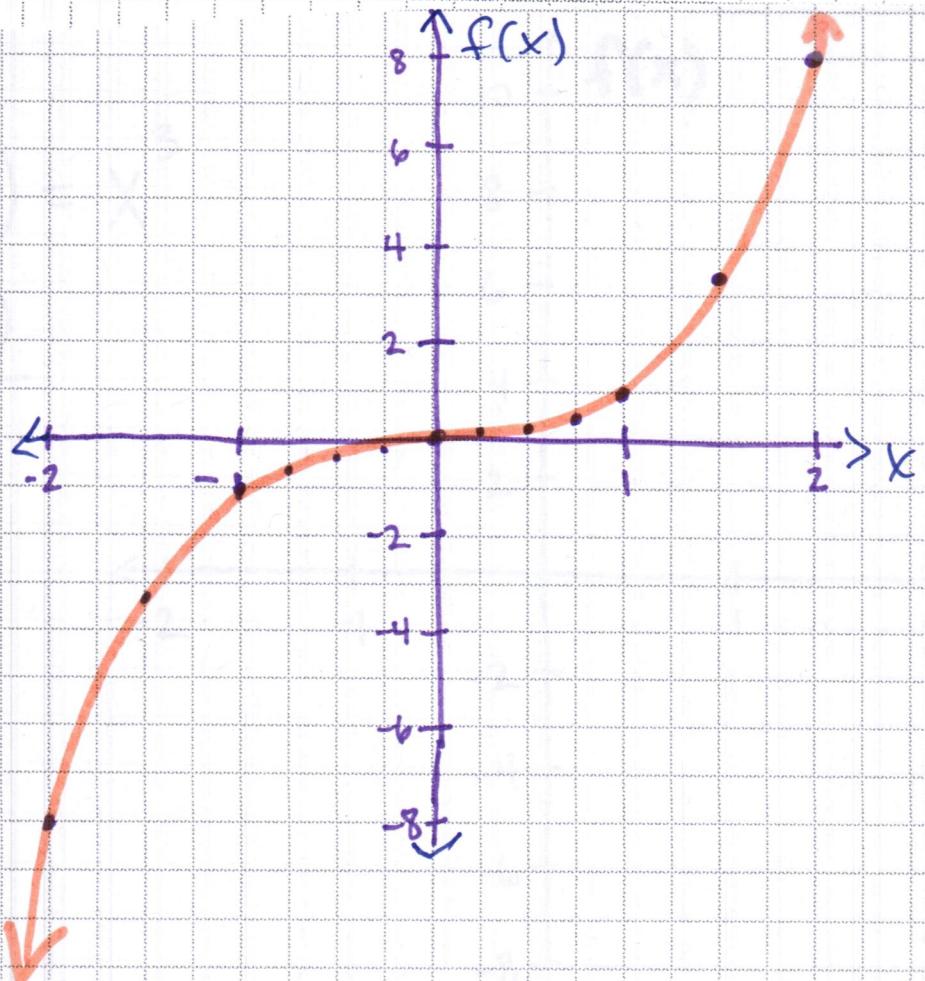
# W.U. Graph

$$f(x) = x^3$$

$x$	$f(x)$
-2	
-1.5	
-1	
-0.75	
-0.5	
-0.25	
0	
0.25	
0.5	
0.75	
1	
1.5	
2	

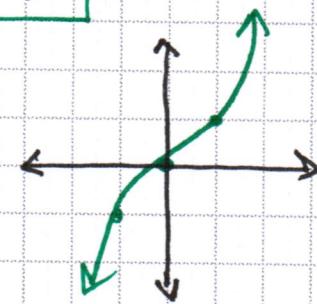


$x$	$f(x)$
-2	-8
-1.5	-3.375
-1	-1
-0.75	-0.432
-0.5	-0.125
-0.25	-0.016
0	0
0.25	0.016
0.5	0.125
0.75	0.432
1	1
1.5	3.375
2	8



⑤ I will understand the parent cubic function  $f(x) = x^3$  and how it flips/shifts.

$$f(x) = x^3$$

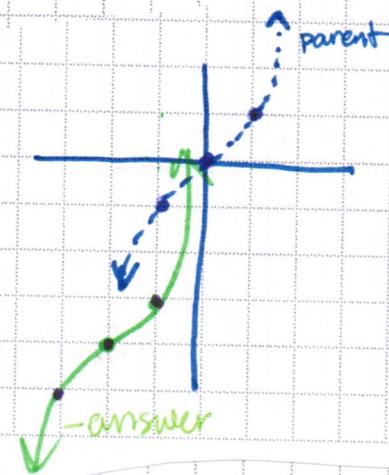


parent function

EX 1]  $y = (x+2)^3 - 4$

shift left 2  
down 4

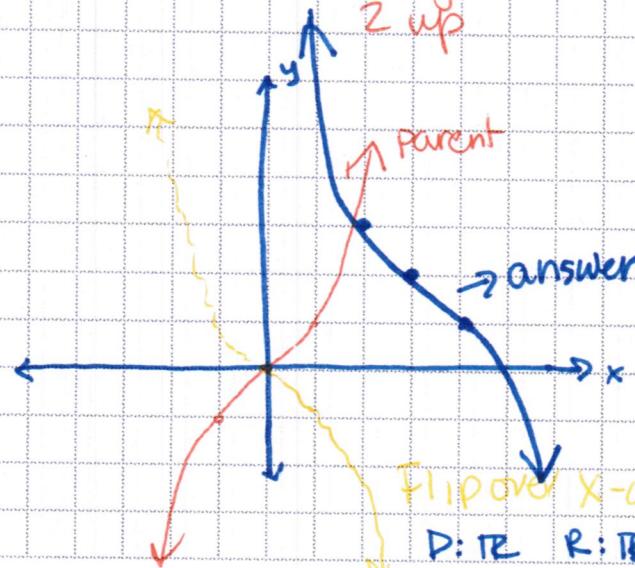
$x$ : all #'s    D:  $\mathbb{R}$   
 $y$ : all #'s    R:  $\mathbb{R}$



{ NOTES:

EX 2]  $y = -(x-3)^3 + 2$

flip over  $x$ -axis  
shift 3 right  
2 up



① Do flip 1st  
(only if f is neg)

② Shift  $(0,0)$   
horz / vertical  
(example was  
3 rt + 2 up)

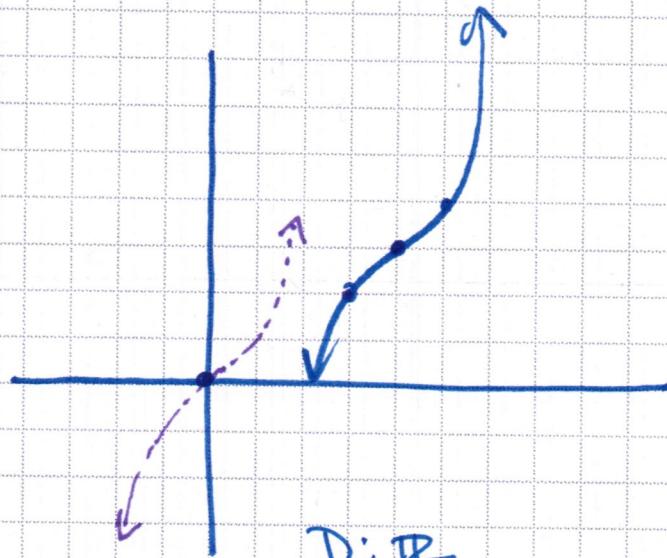
③ Plot other two  
important pts  
horz / vert]

flip over  $x$ -axis  
D:  $\mathbb{R}$     R:  $\mathbb{R}$

④ Graph - it  
curves

Ex 2]  $y = (x - 4)^3 + 3$

Shift  
R+4  
up 3



Ex 3]  $y = -(x + 2)^3 - 3$

flip over x-axis  
lt 2 down 3

