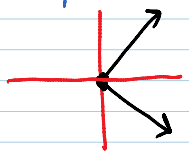
5.1 Notes

Wednesday, September 23, 2015
3:24 PM

Domain vs. **Range**

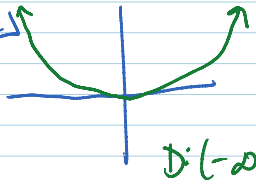
All possible x-values.

ex#1



D: $[0, \infty)$

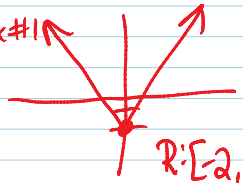
ex.2



D: $(-\infty, \infty)$

All possible y-values.

ex#1



R: $[-2, \infty)$

ex#2

R: $(-\infty, \infty)$

Ex. 1: A) Is the relation a function? B) State the domain and range

X	Y
0	6
2	4
3	10
4	12

yes

D: $\{0, 2, 3, 4\}$

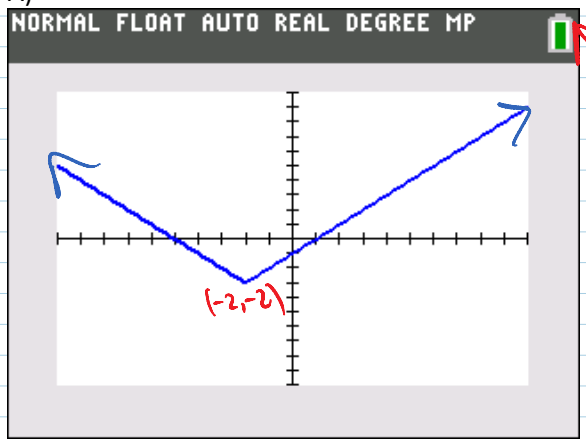
R: $\{6, 4, 10, 12\}$

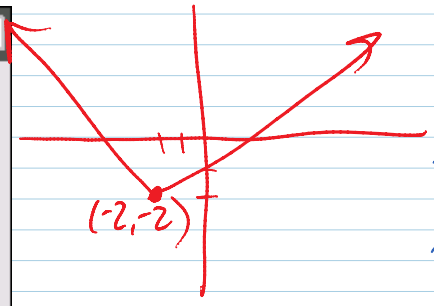
x	y
2	-1
6	2
4	4
2	6

no

Ex. 2: State the domain and range and tell whether the relation is a function. Assume a standard window [-10,10].

A)



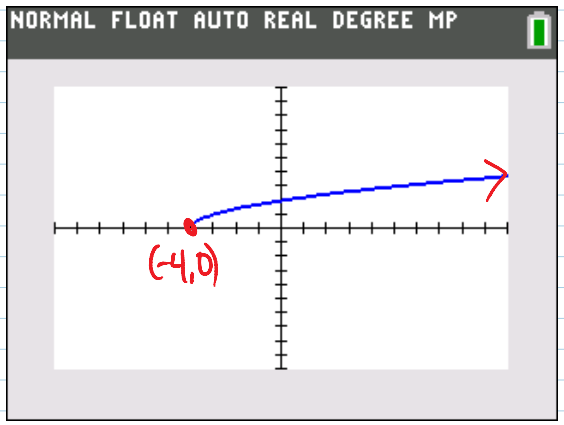


Yes, function! (VLT)

D: $(-\infty, \infty)$

R: $[-2, \infty)$

B)



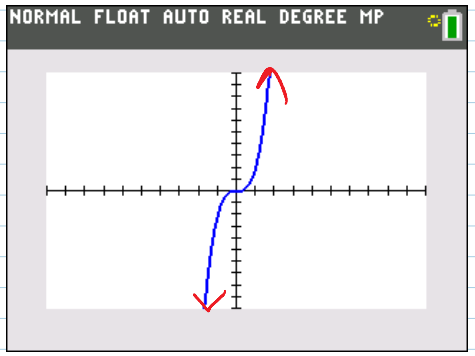
Yes; fcn.

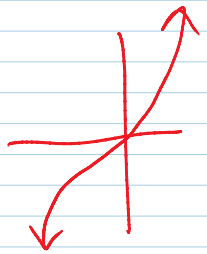
D: $[-4, \infty)$

R: $[0, \infty)$

C.

Yes; fcn



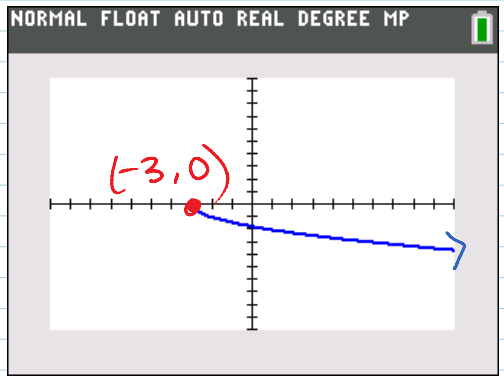


Yes; fcn

D: $(-\infty, \infty)$

R: $(-\infty, \infty)$

D.

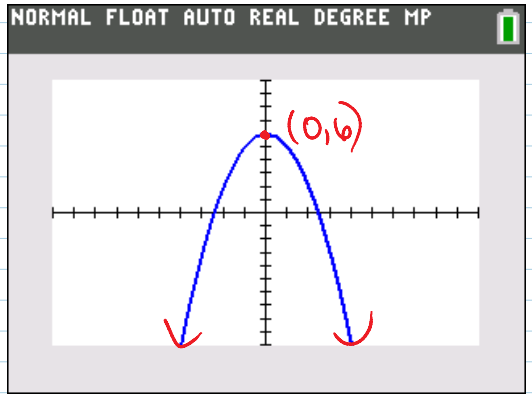


Yes; fcn

D: $[-3, \infty)$

R: $(-\infty, 0]$

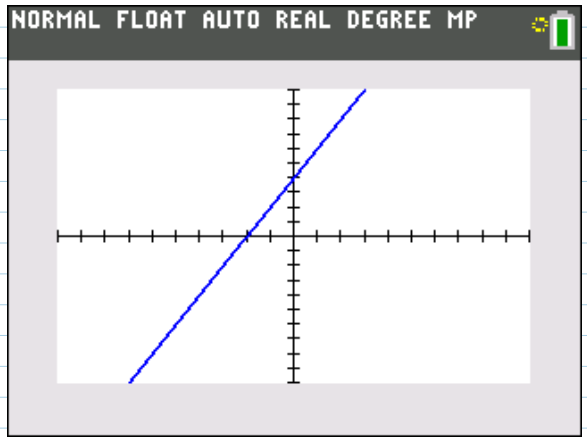
E.



D: $(-\infty, \infty)$

R: $(-\infty, 6]$

F.



D: $(-\infty, \infty)$

R: $(-\infty, \infty)$

Ex. 3:

14. An electric company charges \$15 per month plus 10 cents for each kilowatt-hour (kWh) of electricity used.

a. Use the verbal description of this function to complete the table

14. An electric company charges \$15 per month plus 10 cents for each kilowatt-hour (kWh) of electricity used.

a. Use the verbal description of this function to complete the table below.

Electricity Used (kWh)	0	100	200	300	400	500	600	700	800	900	1,000
Total Cost (dollars)											

b. In this situation, identify the independent and the dependent variables.

c. Use your table to sketch a graph of this function.

d. Use the graph of the function to find the value of the independent variable when the dependent variable is \$80.

e. Is the point (0, 0) on the graph of the function?

f. What is a reasonable problem domain for this function? Explain.

g. Is this a direct variation function? Why or why not?