Starter 10 JAN 2018

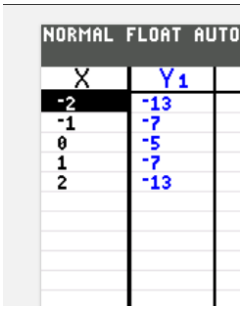
1) Given: $y = -2x^2 - 5$

A. Determine if the graph opens up or down.

DOWN because 2 is −.

B. Does the graph have a minimum or maximum.

C. State the coordinates of 3 points on the graph.



(−2, −13)
(−1, −7)
(0, −5)

Graph the following functions with your graphing calculator, *sketch* the graphs below and identify the domain and range of each function.

A. up/down B. MIN/MAX C. skinnier/wider D. vertex

1. $y = \_ - 3$

2. $y = -3x^2$

up
MIN
skinnier
(0, −3)

3. $y = x^2 + 6$

4. $y = -\frac{1}{4}x^2 - 2$

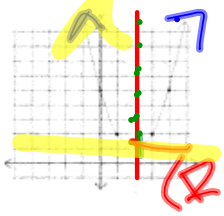
DOMAIN and RANGE

Domain: the set of all x-values

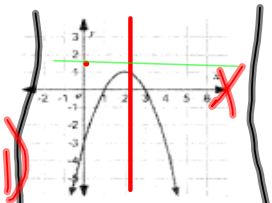
Range: the set of all y-values

D to U.

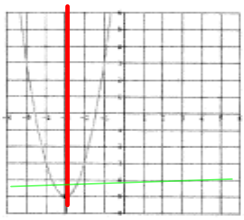
Ex1: Identify the axis of symmetry, vertex and whether it is a minimum or maximum, and the domain and range.



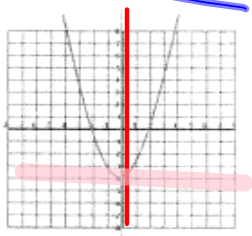
AOS: x=2
V: min(2,1)
D: all R
R: y≥1



AOS: x=2
V: MAX(2,1)
D: R
R: y≤1

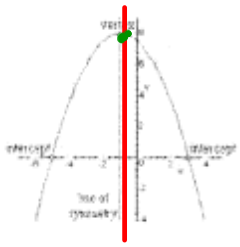


AOS: x=-3
V: MIN(-3,-5)
D: R
R: y≥-5

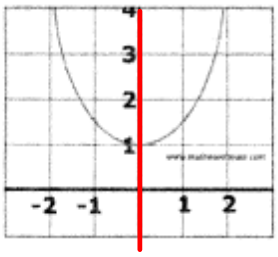


AOS: x=0
V: MIN(0,-4)
D: R
R: y≥-4

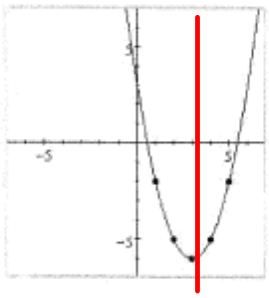
You Try....



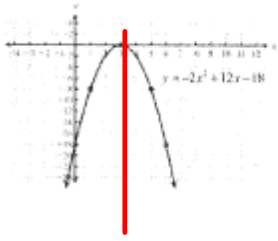
AOS: x=-1
V: MAX(-1,8)
D: R
R: y≤8



AOS: x=0
V: min(0,1)
D: R
R: y≥1



AOS: x=3
V: MIN(3,-6)
D: R
R: y≥-6



AOS: x=3
V: MAX(3,0)
D: R
R: y≤0

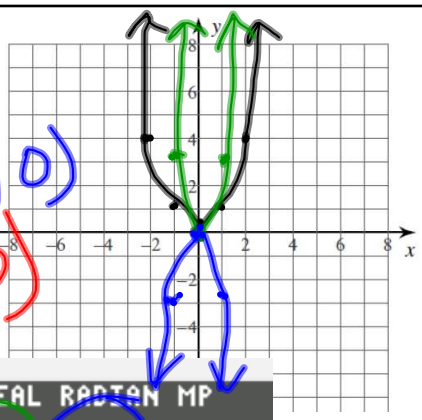
Graphing Quadratic Equations

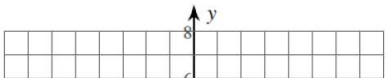
Graph each equation on the same graph.

9. $y = x^2$ axis of symmetry $x = 0$ vertex $\min(0,0)$

1) $y = 3x^2$ axis of symmetry $x = 0$ vertex $\min(0,0)$

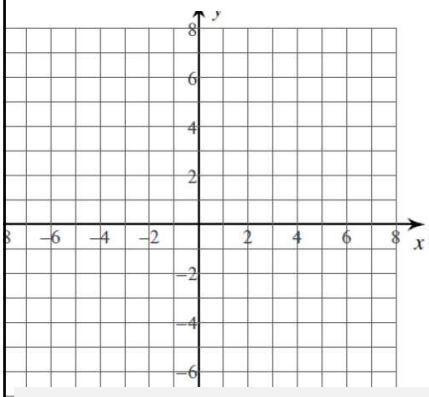
$y = -3x^2$ axis of symmetry $x =$ _____ vertex $\max(0,0)$

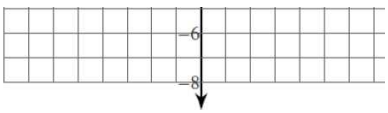




NORMAL FLOAT AUTO REAL RADIAN MP

X	Y1	Y2	Y3
-2	4	12	-12
-1	1	3	-3
0	0	0	0
1	1	3	-3
2	4	12	-12

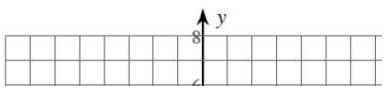




2) $y = x^2$ axis of symmetry _____ vertex _____

$y = x^2 + 4$ axis of symmetry _____ vertex _____

$y = x^2 - 4$ axis of symmetry _____ vertex _____



NORMAL FLOAT AUTO REAL RADIAN

X	Y1	Y2	Y3
-2	4	8	0
-1	1	5	-3
0	0	4	-4
1	1	5	-3
2	4	8	0