

2.1

Wednesday, September 28, 2016 11:50 AM

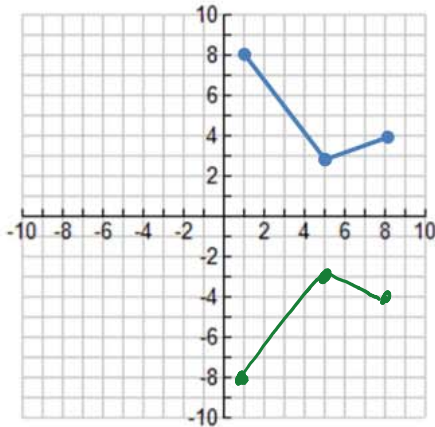
A series of horizontal blue lines for writing, with a vertical red margin line on the left side.

Algebra 2 Trig H
Algebraic and Graphical Symmetry

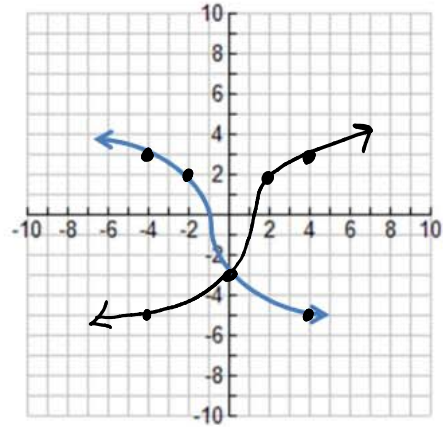
Name:

In 1-4, only part of the graph is given. Use the symmetry described to sketch the other part of the graph.

1. Symmetric about the x-axis

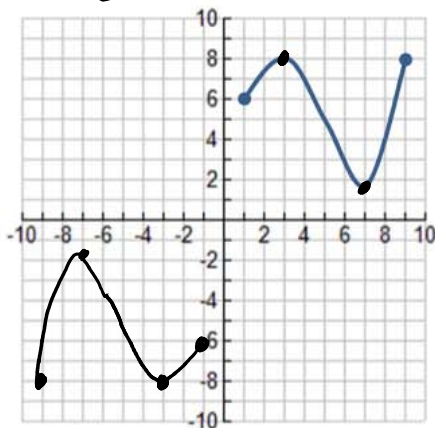


2. Symmetric about the y-axis

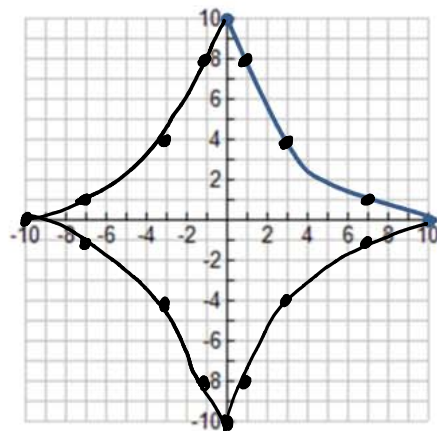


3. Symmetric about the origin

$$(x, y) \rightarrow (-x, -y)$$

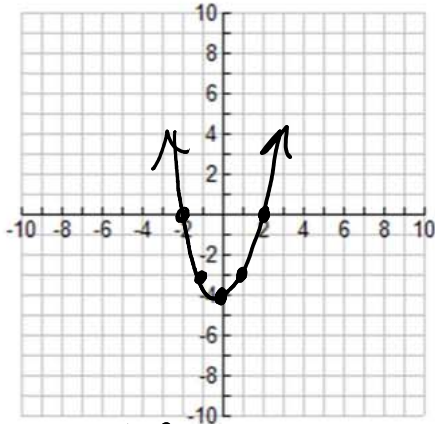


4. Symmetric about the x-axis, y-axis, and origin



Graph the following equations, using tests for symmetry.

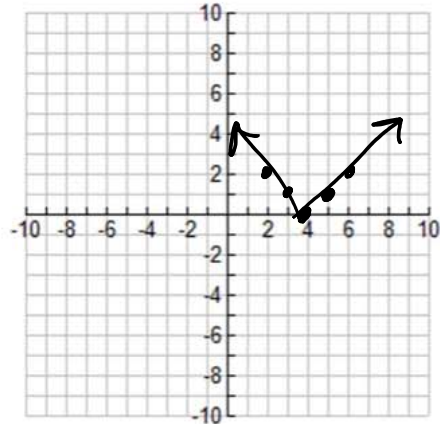
5. $y+4=x^2$ $y=x^2-4$



x	y
0	-4
1	-3
2	0

$y+4 = (-x)^2$ symmetry about y-axis ✓
 $y+4 = x^2$
 $-y+4 = x^2$ symmetry about x-axis x
 $-y+4 = (-x)^2$ symmetry about origin x

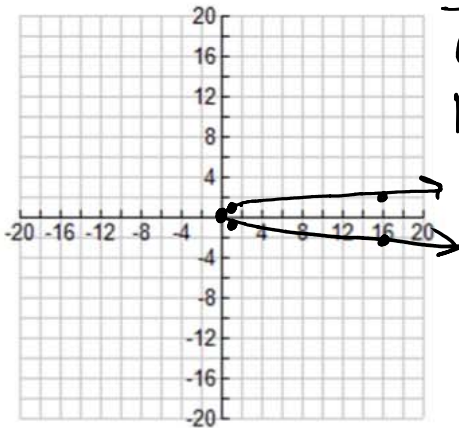
6. $y=|x-4|$



x	y
2	2
3	1
4	0
5	1
6	2

$y = |-x-4|$ Not symmetric about y-axis
 $-y = |x-4|$ Not symmetric about x-axis
 $-y = |-x-4|$ No origin symmetry

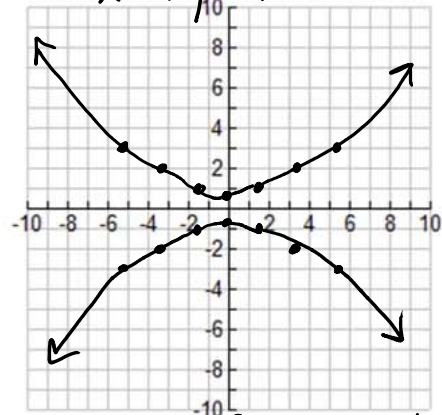
7. $y^4 = x$



x	y
0	0
1	1
16	2

$y^4 = -x$
 $(-y)^4 = x$
 $(-y)^4 = -x$
 NO y-axis symmetry
 * X-axis symmetry
 NO origin symmetry

8. $3y^2 - x^2 = 1$
 $x^2 = 3y^2 - 1$ $x = \pm\sqrt{3y^2 - 1}$



x	y
$\sqrt{3}$	1
$\sqrt{3}$	-1
$\sqrt{12}$	2
$\sqrt{12}$	-2

$3y^2 - (-x)^2 = 1$
 $3(-y)^2 - x^2 = 1$
 $3(-y)^2 - (-x)^2 = 1$
 y-axis symmetry
 x-axis symmetry
 origin symmetry