GRAPHING REVIEW

Symmetry

x-axis   Sub in -y

y-axis   sub in -x

Origin   Sub in -x & -y

⎫ must
⎬ get
⎭ origin
   eg.

1(e)

$$x^{2/3} + y^{2/3} = 4^{2/3}$$

$$\sqrt[3]{x^2} + \sqrt[3]{y^2} = \sqrt[3]{4^2}$$

X-axis — yes

$$\sqrt[3]{x^2} + \sqrt[3]{(-y)^2} = \sqrt[3]{4^2}$$
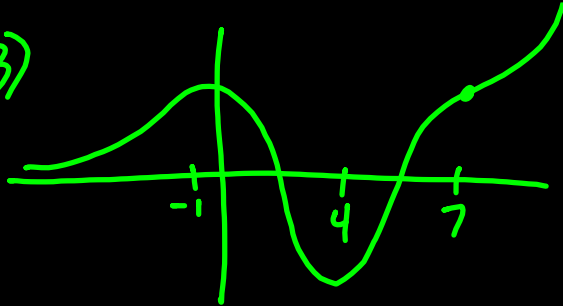
Even/Odd Functions

Even $f(-x) = f(x)$ y-axis symm

Odd $f(-x) = -f(x)$ origin symm

3)

$(-\infty, -1)$ Inc
$(-1, 4)$ Dec
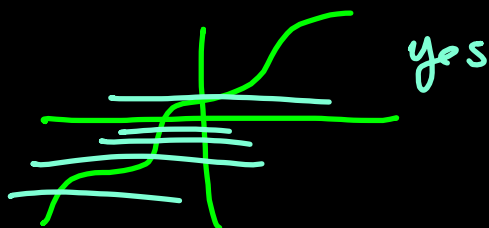$(4, \infty)$ Inc

4)

Vertex
$X\text{-coord} = -\frac{b}{2a}$

$y = $ sub in X

$X\text{-int}$: Sub $y = 0$

factor or
quadratic formula

5) Do $f \circ g$ or $g \circ f$ $\Rightarrow$ must $= x$

6) Will f^{-1} be a function? (must pass horiz line test)

yes

7) Find eq. of f^{-1}

1) Switch x + y
2) Solve y.

$$f(x) = \frac{2x - 5}{3x + 7}$$

$$(3y + 7) \, x = \frac{2y - 5}{3y + 7} \, (3y + 7)$$

$$3xy + 7x = 2y - 5$$

$$3xy - 2y = -7x - 5$$

$$\frac{y(3x - 2)}{3x - 2} = \frac{-7x - 5}{3x - 2}$$

8(c)

Holes = terms cancel from num + denom

Vert = denom = 0

Horiz = use highest power from num + denom

Slant = numerator