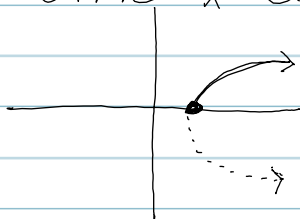
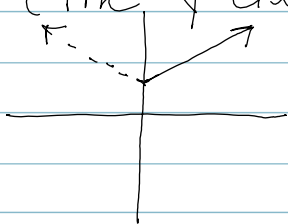


SECTION 2.2 "SYMMETRY"

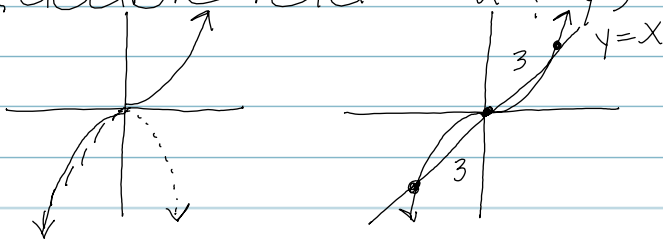
x-axis symmetry
(the x-axis acts like a mirror)



y-axis symmetry
(the y-axis acts like a mirror)



Origin symmetry
(double fold $\rightarrow x \leftrightarrow y$)




How to identify symmetry(s):

Test for x-symmetry (let $y = -y$)
If you get the original equation back,
you have symmetry.

Test for y-symmetry (let $x = -x$)

Test for origin symmetry (let $x = -x$ & $y = -y$)

$$x = y^2 + 3$$


x sym $y = -y$

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

Does it match
the original?

YES or NO

y sym $x = -x$

$$-x = y^2 + 3$$

match

y or **N**


Origin $x = -x$


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


match


y or **n**

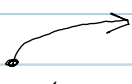
EXAMPLES :


$$y = x^2$$


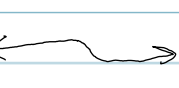
$$x = y^2$$


$$y = |x|$$


$$x = |y|$$


$$y = \sqrt{x}$$


$$y = x^3$$


$$x = y^3$$


$$x^2 + y^2 = r^2$$
