

Day 1

Attendance

Syllabus

Assignments



Web Assign

benidji state

5637

5698

tools



T183,

T184,

Computer free program

Core Tools

1.1

$$y = -3x + 7$$

open sentence

$$x=1, y=2 \text{ (False)}$$

make a table of values make sentence true

$$2 \stackrel{?}{=} -3(1) + 7$$

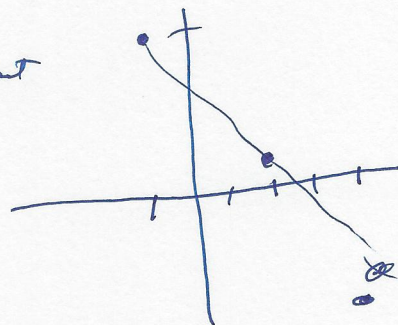
$$2 \stackrel{?}{=} -3 + 7$$

$$2 \stackrel{?}{=} 4$$

False

x	y
-1	10
2	1
4	-5

independent dependent



Ex 9

median recommended weight (pounds) for men, medium frame, who are 25-59 yrs old can be approximated by

$$y = 0.073x^2 - 6.99x + 289.0 \quad 62 \leq x \leq 76$$

(1) Construct a table of values

x	y
62	136.23
64	140.65
66	145.65
68	151.23
70	157.40
72	164.15
74	171.49
76	179.41

(2) sketch graph

(3) age 71

est	eqn
70 71 72	71
157.4 164.15	↓
157.4 164.15	160.70
<u>321.55</u>	≡
160.785	

Not linear

p. 79 #76

you buy an ATV for \$8000.
 the depreciated value y after t years
 is $y = 8000 - 900t$ $0 \leq t \leq 6$

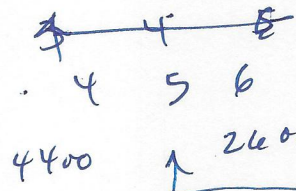
Sketch a graph

x	y
0	8000
1	7100
2	6200
3	5300
4	4400
5	3500
6	2600

Zoom 9

EST 5 yrs

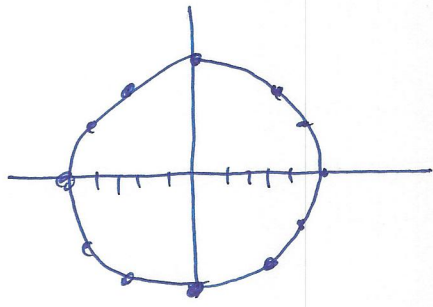
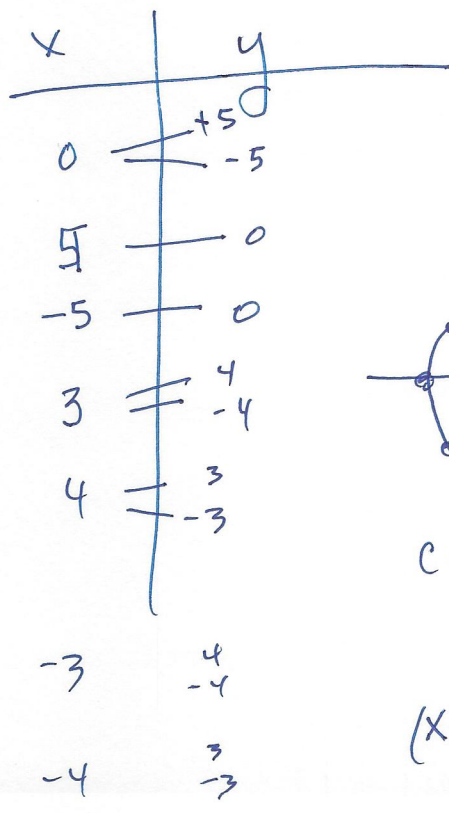
calc 5 yrs



5 → 3500

linear!

$$x^2 + y^2 = 25$$



circle center = (0,0)
 radius = 5

$$(x-0)^2 + (y-0)^2 = 25$$

* Circle
 $(x-h)^2 + (y-k)^2 = r^2$

$$(x-2)^2 + (y-3)^2 = 49$$

center 2, 3 $r=7$

$$(x-5)^2 + (y+12)^2 = 169$$

center (5, -12) $r=13$

intercepts

- where a graph crosses an axis

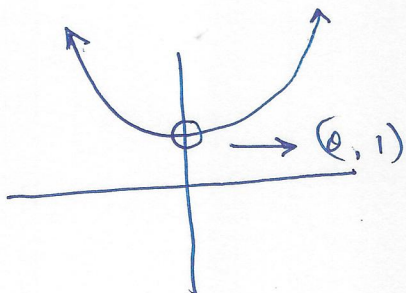
x-intercept

$$y = 0$$

y-intercept

$$x = 0$$

$$y = 1 + x^2$$



y-intercept

$$x = 0$$

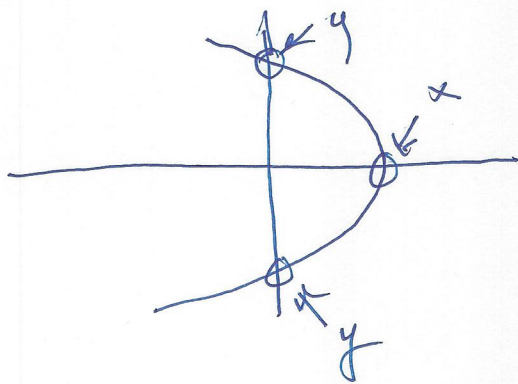
$$y = 1 + 0^2$$

$$y = 1$$

x-intercept

none

$$x = 4 - y^2$$



y-intercept

$$x = 0$$

$$0 = 4 - y^2$$

$$y^2 = 4$$

$$y = \pm 2$$

$$(0, 2) (0, -2)$$

x-intercept

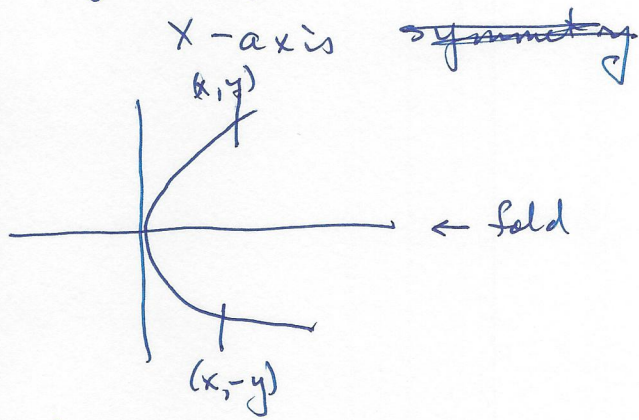
$$y = 0$$

$$x = 4 - 0$$

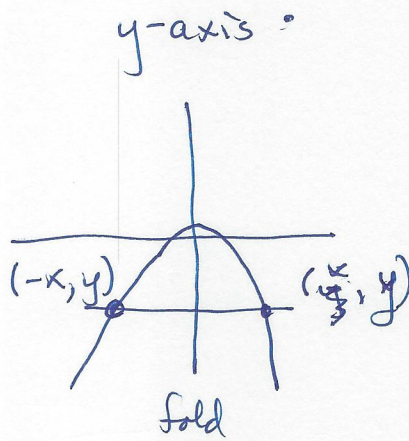
$$x = 4$$

$$4, 0$$

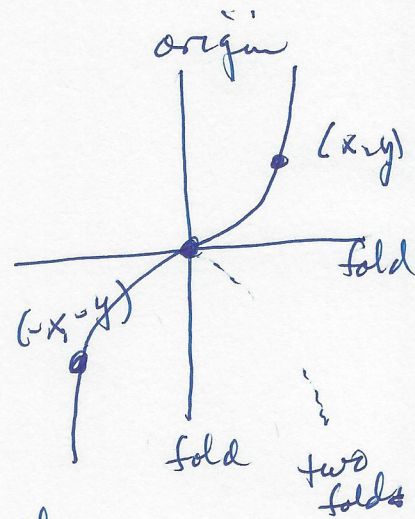
Symmetry



alg: use (x, y) & $(x, -y)$ get same eqn.



alg: (x, y) gives same eqn as $(-x, y)$



alg: (x, y) gives same eqn as $(-x, -y)$

$$x - y^2 = 1$$

$(x, -y)$

$$x - (-y)^2 = 1$$

$$x - y^2 = 1 \text{ same!}$$

x-axis

$(-x, y)$

$$-x - y^2 = 1 \text{ No}$$

$(-x, -y)$

$$-x - (-y)^2 = 1$$

$$-x - y^2 = 1 \text{ No}$$

$$y = 2x^3$$

$(x, -y)$

$$-y = 2x^3 \text{ No}$$

$(-x, y)$

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

$$y = 2 \cdot (-x^3)$$

$$y = -2x^3 \text{ No}$$

$(-x, -y)$

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

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

$$y = 2x^3 \text{ yes}$$

origin

$$y = |x-1|$$

No

No

No

$$y = x^2 - 4$$

(x, y)

$$y = (-x)^2 - 4$$

$$y = x^2 - 4$$

yes