

MA110. 9/8/16.

- Check Canvas
messenger for info.
about a H. exam
times.

- Exam 1. Covers
thru § 3.3.

(HW1-10).

- Trials of REEF
to Webaassign

will expire soon.

Study

[www.uky.edu/AE/
peer-tutoring-schedule](http://www.uky.edu/AE/peer-tutoring-schedule).

Mathskeller.

9-5 M-F. in basement
of CB.

A function - is
 a rule that takes
 each element in
 a set of inputs
 to an element in a
set of outputs.

inputs = domain
 outputs = range.

Representation of
 a function.

Table of values.

x	1	2	3
y	42	42	42

is a function taking
x to y

But if we reverse x
 by

y	42	42	42
x	1	2	3

This is not

a function taking y
to x .

Rule for Taxes

Income from 0 to
4000 is not taxed.

Income greater than
4000 to less than or
equal 10,000 is taxed
at a rate of 4%
Income above 10,000
is taxed at 6%

Find the tax on
11,000.

	Tax
First 4000	0
Next 6000	240
Last 1000	60
Tax	\$300

Position as a
function of time.
Drive East of 64
at 60 mph.

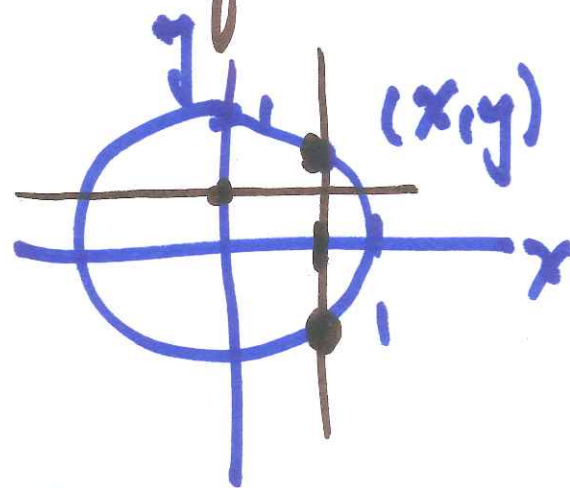
Leave Lexington
at 10 am.
Where are you
at 10³⁰ am?

30 mi east of
Lexington

Equation and
graphs.

Does $x^2 + y^2 = 1$
give x as

a function of y ? 4

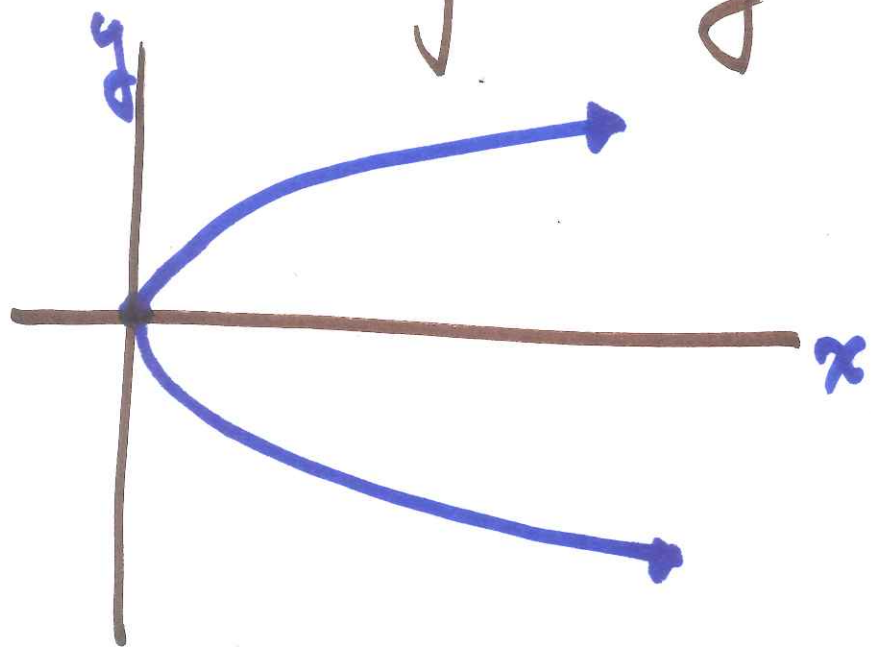


Nope.

Does this equation
give x as a function
of y ?

No.

Consider $x = y^2$



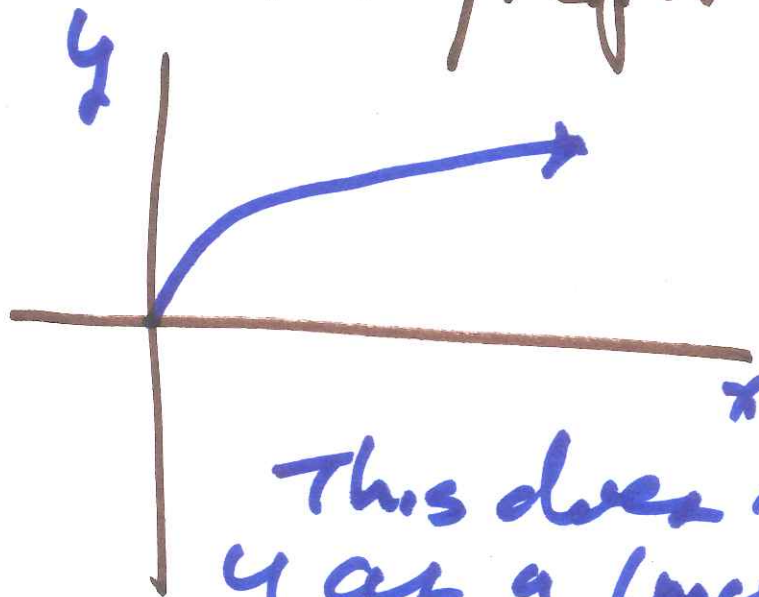
This does ^{not} give y
as a function of x .

-or-

$$y = \pm \sqrt{x}$$

If we impose the
condition $y \geq 0$,
then

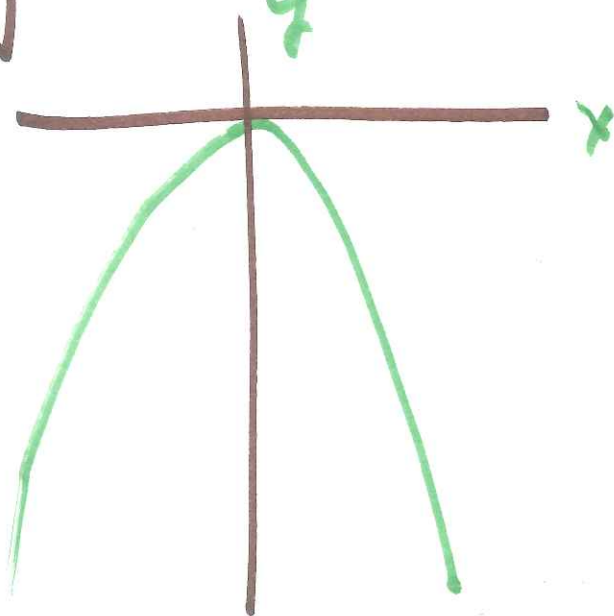
$x = y^2, y \geq 0$
have the graph



This does ~~not~~
give y as a function
of x . $y = \sqrt{x}$.

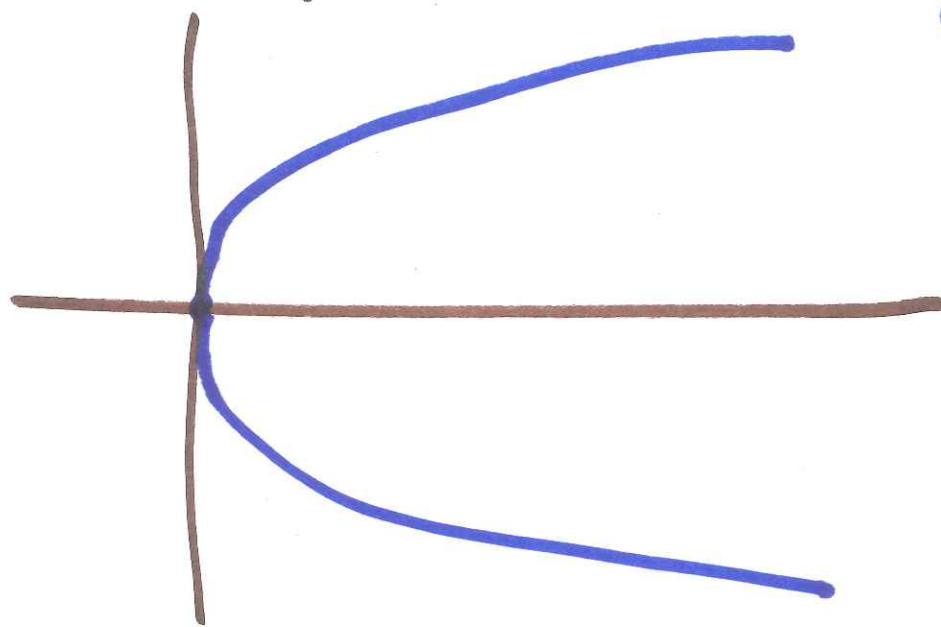
REF. D & E

$$y = -x^2$$



$$x = y^4$$

$$x = y^4$$



Given y as a function
of x .

Does not give
 x as a function of y

Greatest integer
function -

$$[2] = 2.$$

$$[x] = \text{greatest}$$

$$\text{integer} \leq x.$$

$$[-1.5] = -2$$

$$[1.5] = 1$$