

B4 ALG II 9/12/11

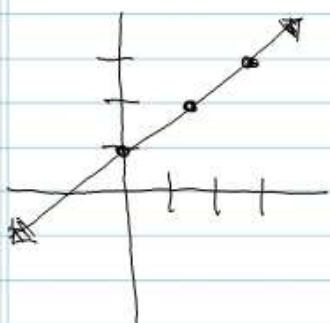
AA

## Functions

Students: determine what is a function as a relation, how to graphically tell what is and what isn't, and evaluating a function for a given value



\* Functions have 1-x-value and 1-y-value

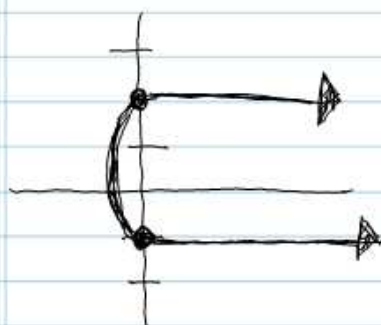


(1,1) (2,2) (3,3)

Function

\* have different x value

\* no similar y values



(1,1) (1,-1)

Not a Function

$$y = mx + b$$

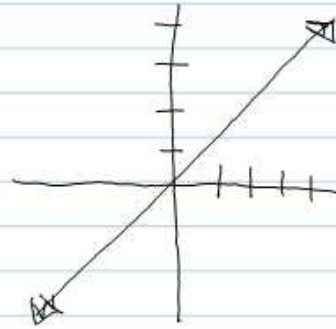
$$f(x) = 2x + 1 \rightarrow \text{Function}$$

straight line

$$y=2x$$

$$y=2x+0$$

function



\* Relation - set of ordered pairs

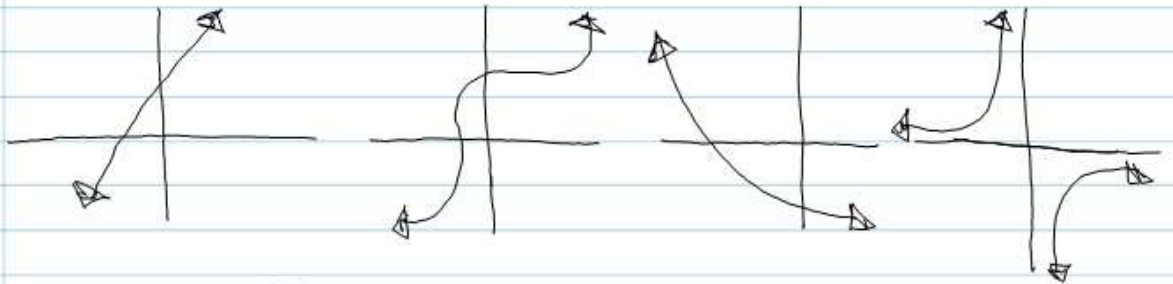
\* All Functions are relations, but not all relations are Functions

example:



\* sometimes relations can help, but sometimes ~~it~~ it can't help you determine the line

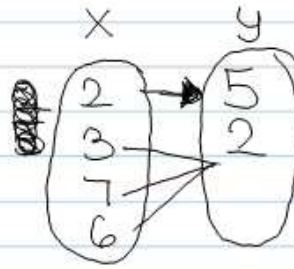
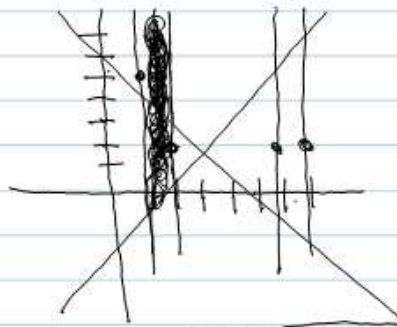
which one is a relation?



all are relations

Relation or Function?

(2,5) (3,2) (7,2) (6,2)



Function and Relation

Function?

$$x = y^2 + 1$$

$$y^2 = x - 1$$

$$y = \pm \sqrt{x - 1}$$

Not a Function