

10.6.09

TOPICS

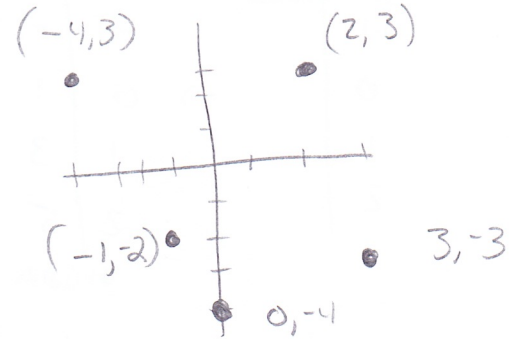
2.1

Day

2

OPENER: STATE THE DOMAIN & RANGE OF THE RELATION SHOWN IN THE GRAPH.

IS THE RELATION A FUNCTION?



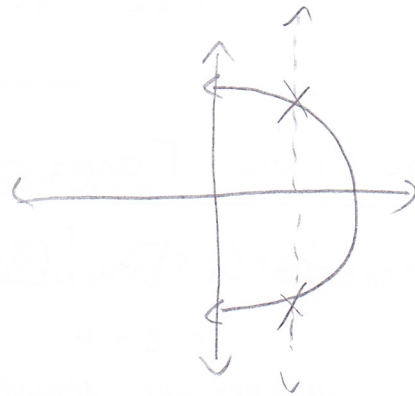
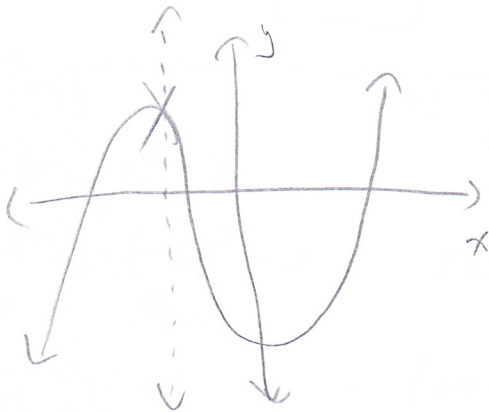
IS IT A FUNCTION?

CHECK BY MAPPING

OR

VERTICLE LINE TEST

MEANS THERE ARE 2 Y-VALUE FOR THE SAME X-VALUE



NO VERTICAL LINE INTERSECTS MORE THAN ONE POINT ON GRAPH, THEN IT IS A FUNCTION

YES

VERTICAL LINE INTERSECTS MORE THAN ONE POINT, THEN IT IS NOT A FUNCTION.

NO

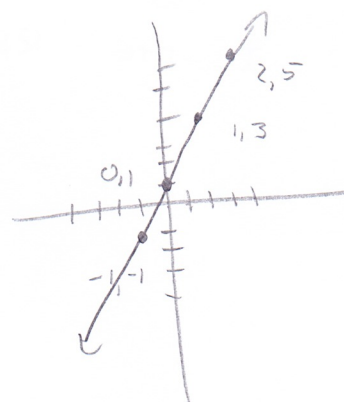
RELATIONS + FUNCTIONS ALSO REPRESENTED AS EQUATIONS

Ex $y = 2x + 1$

MAKE A TABLE

| x | y | | x | y |
|----|---|---|----|----|
| -1 | | | -1 | -1 |
| 0 | | → | 0 | 1 |
| 1 | | | 1 | 3 |
| 2 | | | 2 | 5 |

MAKE A GRAPH



• FIND DOMAIN + RANGE

D IS ALL \mathbb{R}
R IS ALL \mathbb{R}

• IS THIS A FUNCTION?

CANT TELL BY TABLE
BUT PASSES VERTICAL LINE TEST
SO **YES!**

EVALUATING FUNCTIONS

EQUATIONS

INDEPENDENT + DEPENDENT VARIABLES

DOMAIN = INDEPENDENT VARIABLE (X-VALUES)

RANGE = DEPENDENT VARIABLE (Y-VALUES)

↳ Y DEPENDS ON WHAT X IS

FUNCTION NOTATION

EQUATIONS REPRESENT FUNCTIONS

Ex] $y = 2x + 1$

$$f(x) = 2x + 1$$

READ "f OF x"

↑ NOT A VARIABLE * WE CAN
JUST THE NAME USE OTHER
OF THE FUNCTION LETTERS

FIND THE RANGE IN THE FUNCTION ABOVE
THAT CORRESPONDS TO # 4 IN THE DOMAIN.

$$f(4) = 2(4) + 1$$

$$f(4) = 8 + 1$$

$$f(4) = 9$$

Ex] EVALUATE A FUNCTION

GIVEN $f(x) = x^2 + 2$ + $g(x) = .5x^2 - 5x + 3.5$

a) $f(-3)$

$$f(x) = x^2 + 2$$

$$f(-3) = (-3)^2 + 2$$

$$= 9 + 2$$

$$f(-3) = 11$$

b) $g(2.8)$

$$g(x) = .5x^2 - 5x + 3.5$$

$$g(2.8) = .5(2.8)^2 - 5(2.8) + 3.5$$

$$= 3.92 - 14 + 3.5$$

$$= -6.58$$

c) $f(3z)$

$$f(x) = x^2 + 2$$

$$f(3z) = (3z)^2 + 2$$

$$f(3z) = 9z^2 + 2$$

HW: Pg. 60-61
21, 22, 29-32, 46-50