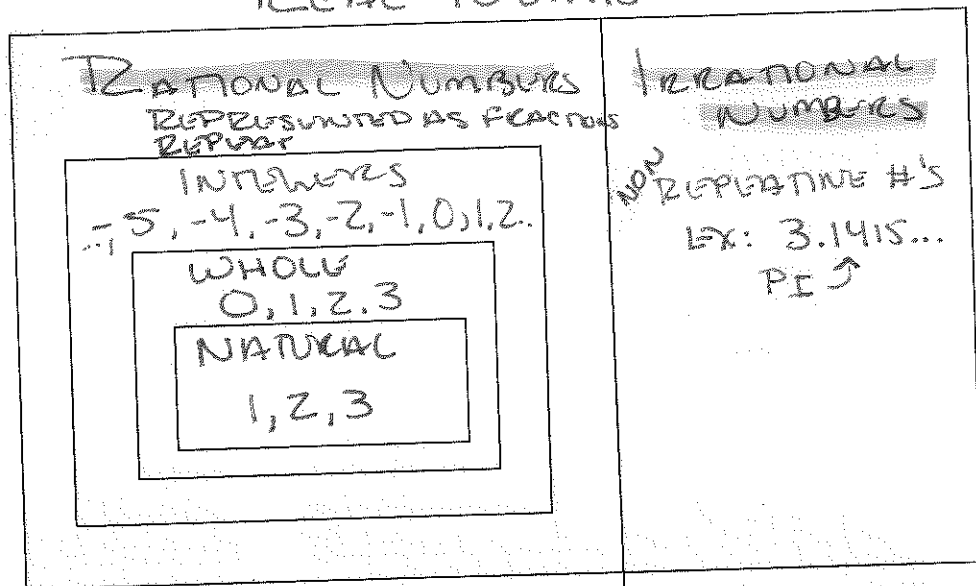


1.1 Linear Functions

GOAL: REPRESENT INTERVALS USING INTERVAL NOTATION
REPRESENT INTERVALS USING SET BUILDER NOTATION

Real Numbers



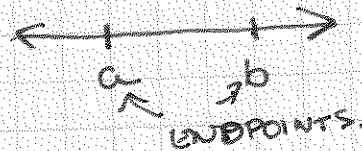
VOCABULARY:

SET: COLLECTION OF OBJECTS

SUBSET: A GROUP OF ELEMENTS IN WHICH EACH ELEMENT IS PART OF A LARGER SET.

EX: WOODS ARE A SUBSET OF MY GOLF CLUB SET.

ENDPOINTS: 2 REAL NUMBERS ON A NUMERICAL LINE.



BOUNDED INTERVALS.

$$a \leq x \leq b$$

INTERVAL NOTATION EQUAL TO HITS OR

$$[a, b]$$

$$a < x \leq b$$

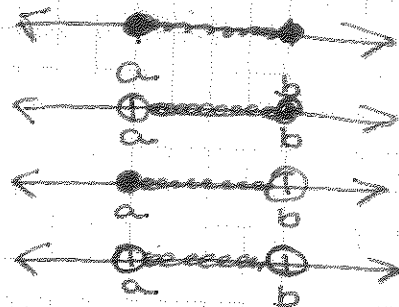
$$(a, b]$$

$$a \leq x < b$$

$$[a, b)$$

$$a < x < b$$

$$(a, b)$$



UNBOUNDED INTERVALS.

$$x \geq a$$

INTERVAL NOTATION

$$[a, \infty)$$

$$x > a$$

$$(a, \infty)$$

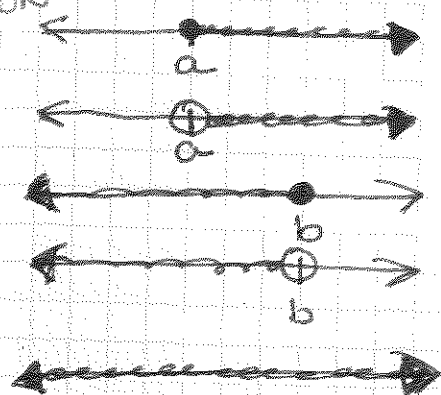
$$x \leq b$$

$$(-\infty, b]$$

$$x < b$$

$$(-\infty, b)$$

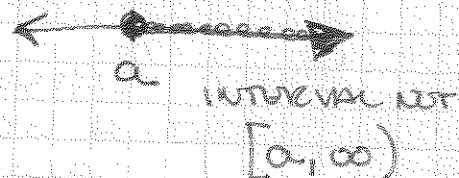
$$(-\infty, \infty)$$



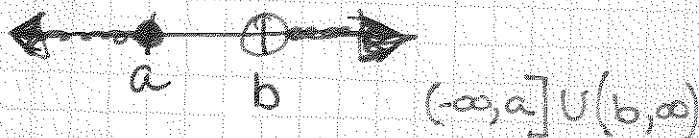
APPROACHES

SET BUILDER NOTATION

$\{ x \mid x \geq a \}$
 THE SET OF x SUCH THAT BOUNDARIES



$$\{ x \mid x \leq a \text{ or } x > b \}$$



$$\{ x \mid x \neq a \}$$

