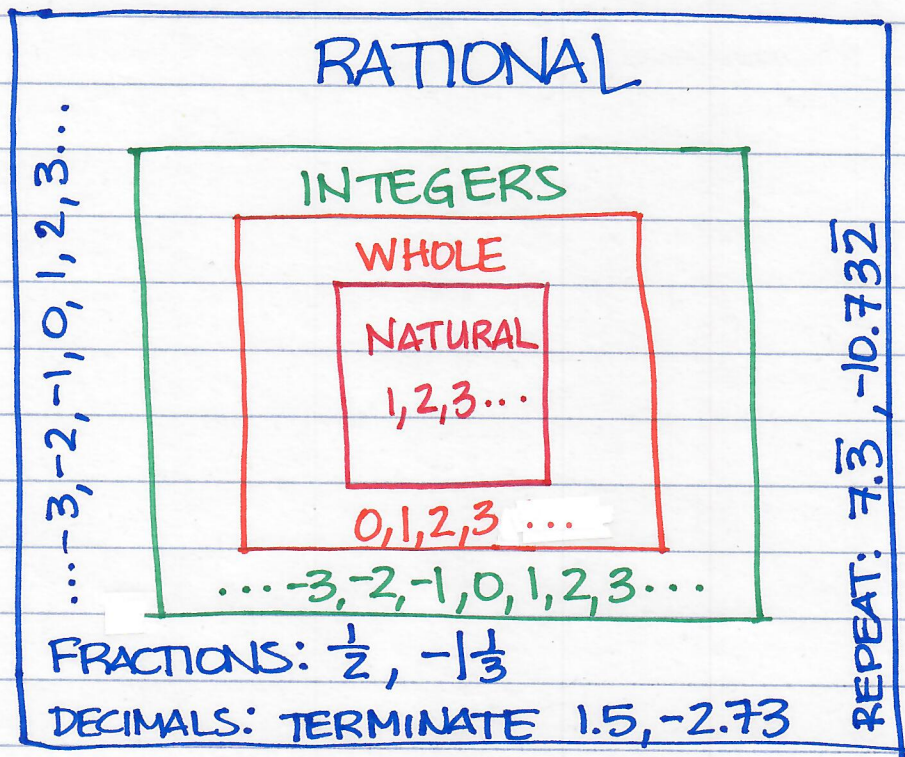


# UNIT 7: RATIONAL EXPLORATIONS

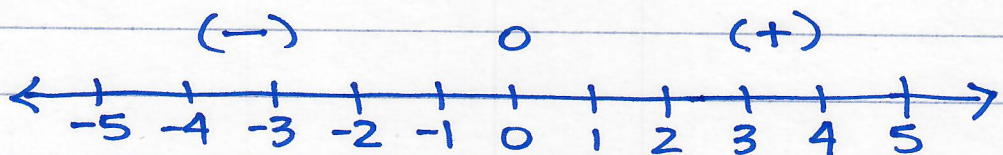


DEF

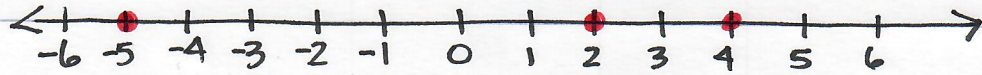
INTEGER: POSITIVE + NEGATIVE WHOLE NUMBERS AND ZERO

POSITIVE - GREATER THAN ZERO

NEGATIVE - LESS THAN ZERO



## GRAPHING ON A NUMBER LINE



GRAPH  $\{-5, 2, 4\}$

LEAST TO GREATEST (LEFT TO RIGHT)

$-5, 2, 4$

def

OPPOSITES: NUMBERS THAT ARE THE SAME DISTANCE FROM ZERO IN OPPOSITE DIRECTIONS

$$-4 + 4$$

$$-2.3 + 2.3$$

$$-5 + 5$$

USE INTEGERS TO REPRESENT REAL WORLD SITUATIONS

1) A PROFIT OF \$60      60

2) A DECREASE OF  $10^\circ$       -10

3) A LOSS OF 3 YARDS      -3

4) 36 FEET ABOVE SEA LEVEL      36

POSITIVE

DEPOSIT  
INCREASE  
ABOVE  
PROFIT  
GAIN

NEGATIVE

WITHDRAWAL  
DECREASE  
BELOW  
LOSS

# ABSOLUTE VALUE

DEF.

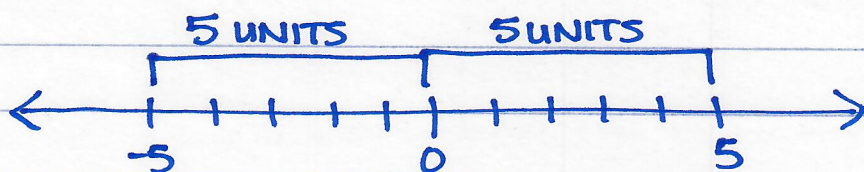
ABSOLUTE VALUE: THE DISTANCE (POSITIVE) BETWEEN A NUMBER AND ZERO ON A NUMBER LINE

| | = TAKE ABSOLUTE VALUE

ABS. VAL. IS ALWAYS POSITIVE

$$|5| = 5$$

$$|-5| = 5$$



$$1) |25| = 25$$

$$2) |-50| = 50$$

$$3) |-2486| = 2486$$

$$4) |1432| = 1432$$

$$5) |0| = 0$$

$$6) -|379| = -379$$

↑ OUTSIDE | |      ↑ KEEP -

$$7) -|-68| = -68$$

↓ OUTSIDE | |      ↑ KEEP -

$$8) |-5| + |16| = 21$$

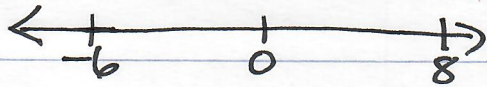
5 + 16

# COMPARING AND ORDERING

TO COMPARE USE  $>$ ,  $<$ ,  $=$ ,  $\neq$

NUMBERS FURTHER TO THE LEFT ARE SMALLER

NUMBERS FURTHER TO THE RIGHT ARE BIGGER



NEGATIVES ARE ALWAYS  
SMALLER THAN POSITIVES

$8 > -6$   
↑  
FURTHER RIGHT  
BIGGER

1)  $2 < 4$

2)  $-2 > -4$

3)  $-2 < 4$

4)  $2 > -4$

5)  $-2 < 0$

6)  $-12 < 9$

7)  $-17 < -4$

8)  $|4| > -4$

9)  $|-6| = |6|$

10)  $1 = |-1|$