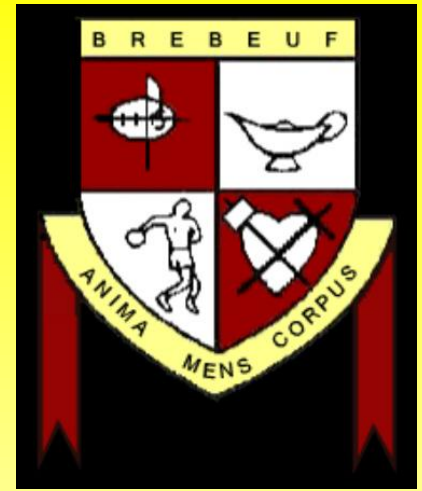


# ST. JEAN DE BREBEUF MATHEMATICS



# NUMBER SENSE

## OPERATIONS WITH

## INTEGERS

# NUMBER SENSE OPERATIONS WITH INTEGERS

## WARM UP

Write the opposite of each integer (an example is provided)

(a)  $+ 3 \rightarrow - 3$

(b)  $- 5 \rightarrow \underline{+ 5}$

(c)  $-\frac{1}{2} \rightarrow \underline{+\frac{1}{2}}$

# NUMBER SENSE OPERATIONS WITH INTEGERS

## KEY CONCEPTS

An **integer** is a whole number with a **+** or **-** in front of it

### EXAMPLE:

$+ 2 \rightarrow$  **Positive** two

$- 1 \rightarrow$  **Negative** one

There are a few rules that need to be followed when adding, subtracting, multiplying and dividing integers (especially when working with *negative* integers)

ADDING INTEGERS	SUBTRACTING INTEGERS
<p><u>Adding</u> a <i>negative</i> integer is the same thing as <u>subtracting</u> a <i>positive</i> integer</p> $5 + (-3)$ $= 5 - 3$ $= 2$	<p><u>Subtracting</u> a <i>negative</i> integer is the same thing as <u>adding</u> a positive integer</p> $5 - (-3)$ $= 5 + 3$ $= 8$

# NUMBER SENSE OPERATIONS WITH INTEGERS

## KEY CONCEPTS

There are a few rules that need to be followed when adding, subtracting, multiplying and dividing integers (especially when working with *negative* integers)

### MULTIPLYING INTEGERS

Multiplying two positive numbers will result in a **positive** answer

$$\begin{aligned} 2 \times 3 \\ = 6 \end{aligned}$$

Multiplying a positive number and a negative number (and vice-versa) will result in a **negative** answer

$$\begin{aligned} 2 \times (-3) \\ = -6 \end{aligned}$$

$$\begin{aligned} -2 \times 3 \\ = -6 \end{aligned}$$

Multiplying two negative numbers will result in a **positive** answer

$$\begin{aligned} -2 \times (-3) \\ = 6 \end{aligned}$$

PREV.

EXAMPLES

# NUMBER SENSE OPERATIONS WITH INTEGERS

## KEY CONCEPTS

There are a few rules that need to be followed when adding, subtracting, multiplying and dividing integers (especially when working with *negative* integers)

### DIVIDING INTEGERS

Dividing two positive numbers will result in a **positive** answer

$$10 \div 2 \\ = 5$$

Dividing a positive number and a negative number (and vice-versa) will result in a **negative** answer

$$10 \div (-2) \\ = -5$$

$$-10 \div 2 \\ = -5$$

Dividing two negative numbers will result in a **positive** answer

$$-10 \div (-2) \\ = 5$$

PREV.

EXAMPLES

# NUMBER SENSE

# OPERATIONS WITH INTEGERS

## EXAMPLE 1

## Adding Integers

Evaluate the following:

(a)  $5 + 9$

$$= 14$$

(b)  $-8 + 10$

$$= 2$$

(c)  $7 + (-4)$

$$= 7 - 4$$

$$= 3$$

(d)  $-6 + (-2)$

$$= -6 - 2$$

$$= -8$$

# NUMBER SENSE OPERATIONS WITH INTEGERS

## EXAMPLE 2

## Subtracting Integers

(a)  $7 - 2$

$$= 5$$

(b)  $3 - 10$

$$= -7$$

(c)  $-4 - 9$

$$= -13$$

(d)  $12 - (-3)$

$$= 12 + 3$$

$$= 15$$

(e)  $-13 - (-17)$

$$= -13 + 17$$

$$= 4$$

## EXAMPLE 3

## Multiplying Integers

Evaluate the following:

Positive  $\times$  Negative  
= **Negative**

Negative  $\times$  Positive  
= **Negative**

(a)  $4 \times 7$

**= 28**

(b)  $2(-10)$

**= -20**

(c)  $-5 \times 6$

**= -30**

(d)  $(-3)(-3)$

**= 9**

Negative  $\times$  Negative  
= **Positive**

PREV.

RULES



# NUMBER SENSE OPERATIONS WITH INTEGERS

## EXAMPLE 4

### Dividing Integers

Evaluate the following:

Negative  $\div$  Positive  
= **Negative**

Positive  $\div$  Negative  
= **Negative**

(a)  $14 \div 7$   
 $= 2$

(b)  $\frac{-20}{5}$   
 $= -4$

(c)  $18 \div (-3)$   
 $= -6$

(d)  $\frac{-63}{-9}$   
 $= 7$

Negative  $\div$  Negative  
= **Positive**

PREV.

RULES

# **NUMBER SENSE** OPERATIONS WITH INTEGERS

## **Homework:**

Handout