

YEAR 8 MATHEMATICS WEEK 3 2020 (TERM 2)

Year: 8

Date: Wednesday 3 June 2020

STRAND: NUMBERS

TOPIC: Directed Numbers

LESSON OUTCOME: At the end of this lesson student(s) should be able to add directed numbers.

Instructions: Hi dear Parents/Guardians and students - In this Lesson students are going to add directed numbers by doing the selected questions for **Exercise 2.4**.

*[Note that all the Quizzes/Test and or Assignment will be based on the selected questions for each exercise. These lessons are designed for **one hour per Lesson**.]*

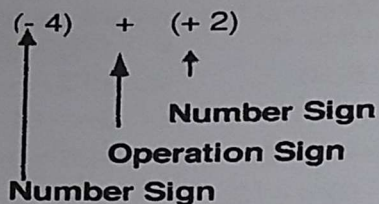
What to do: Do the following selected questions

Exercise 2.4: Q1 (a, g, i); Q2 (f, h, i); Q3 (c, f, l); Q4 (k, l, m, n)

Solutions: Solutions will be available online via

<https://www.facebook.com/centralschoolemergencyforum/posts/108720557434149>

Adding Directed Numbers



A **number sign** is the sign in front of a number.

The following rules can help us add negative and positive numbers.

Rule 1.

Operation Sign

If the operation sign is a +, it means face the (+ve) positive direction.

If the operation sign is a -, it means face the (-ve) negative direction.

Rule 2

Number Sign

If the number sign is a +, it means move forward.

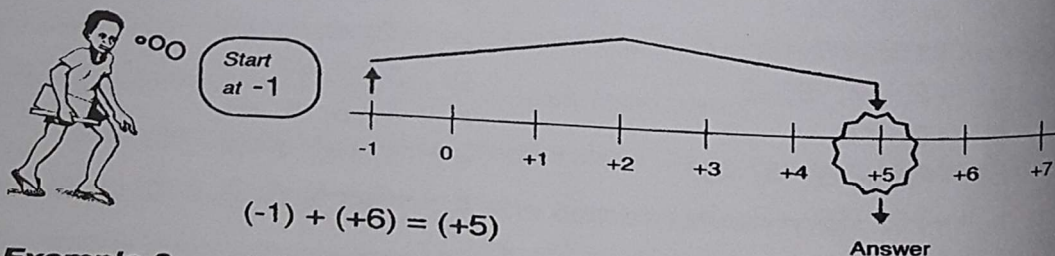
If the number sign is a -, it means move backwards.

Example

(+5) means move forward 5 units.

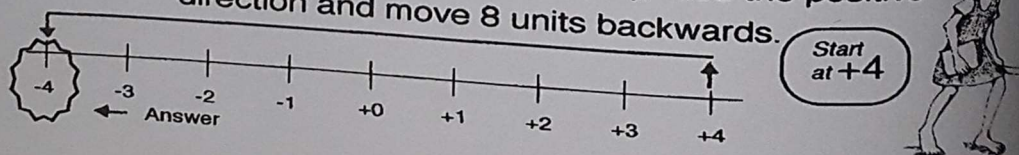
(-5) means move backward 5 units

Example 1. $(-1) + (+6)$ means start at (-1) , face the positive direction and move 6 units forward.



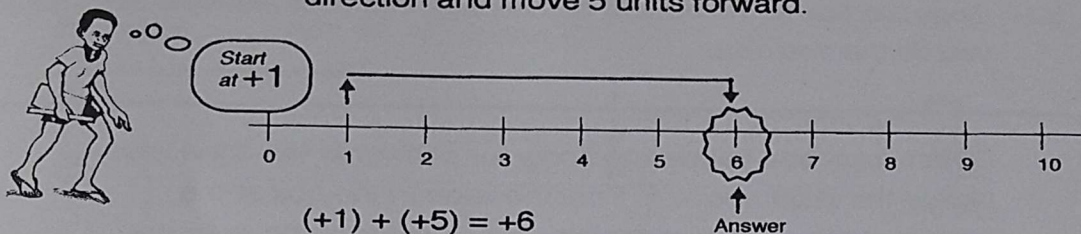
Example 2

$(+4) + (-8)$ means start at $(+4)$, face the positive direction and move 8 units backwards.



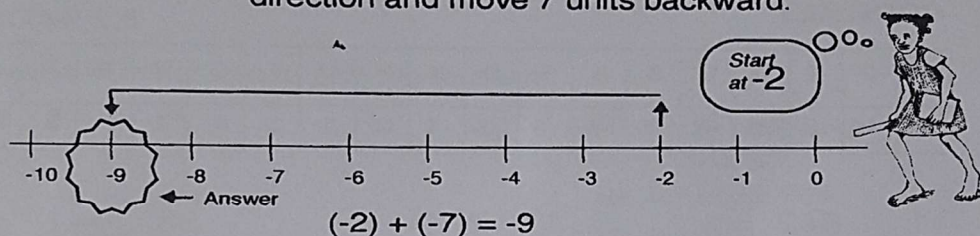
Example 3

$(+1) + (+5)$ means start at $(+1)$, face the positive direction and move 5 units forward.



Example 4

$(-2) + (-7)$ means start at (-2) , face the negative direction and move 7 units backward.



EXERCISE 2.4

1. Draw number lines to show the addition of the following:

- | | | | |
|------------------|------------------|------------------|------------------|
| a. $+6$ and $+2$ | d. -2 and $+5$ | g. -2 and -2 | j. -6 and $+8$ |
| b. -1 and -3 | e. $+6$ and -4 | h. $+7$ and -3 | |
| c. $+4$ and -6 | f. -5 and $+3$ | i. $+3$ and -4 | |

2. Find the sum of the following:

- | | | |
|------------------|------------------|------------------|
| a. $(-4) + (+6)$ | d. $(-8) + 7$ | g. $(-6) + (+5)$ |
| b. $(8 + (-9))$ | e. $1 + 2$ | h. $(-2) + (+7)$ |
| c. $(-7) + 3$ | f. $(-3) + (-3)$ | i. $10 + (-9)$ |

A number without a sign is always a (+ve) positive number.

3. Find the sum of the following:

- | | | |
|--------------------|------------------|------------------|
| a. $5 + (-5)$ | d. $9 + (-9)$ | g. $4 + (-4)$ |
| b. $(-10) + (+10)$ | e. $(-1) + (+1)$ | h. $(+6) + (-6)$ |
| c. $(-3) + (+3)$ | f. $(+7) + (-7)$ | i. $(-8) + 8$ |

The sum of a number and its opposite is always zero (0)

4. Find the sum of the following. If necessary draw a number line to help you.

- | | | | |
|--------------|--------------|--------------|--------------|
| a. $+6 + +4$ | e. $+6 + -7$ | i. $+3 + +2$ | |
| b. $-4 + -4$ | f. $+6 + -7$ | j. $-5 + +4$ | |
| c. $-8 + +6$ | g. $+6 + -3$ | k. $-4 + -5$ | m. $-3 + -6$ |
| d. $-1 + +7$ | h. $+7 + -2$ | l. $+5 + -2$ | n. $-9 + +6$ |