CHAPTER 2 INTEGERS

Learning outcomes
At the end of this chapter, Learners will:
- Add and subtract integers without using the number line.
- Multiply and divide integers.

CONCISE INFORMATION

Addition and subtraction of integers
To add two integers of the same sign, maintain the sign and add the absolute value of each number.
To add two integers of the different signs, maintain the sign of the largest absolute value and subtract the absolute value of the smallest number from the largest.
To subtract two integers, keep the first integer, change the operation from subtraction to addition (this makes the sign of the second integer to change to the opposite sign) and then proceed with addition.

Examples
Find the value of

(a) $+12-(-19)$
$= +12+19$
$= \mathbf{31}$

(b) $-10+(-8)$
$= -10-8$
$= \mathbf{-18}$

(c) $-23-(+22)$
$= -23-22$
$= \mathbf{-45}$

(d) $31+44+(-25)$
$= 31+44-25$
$= 75-25$
$= \mathbf{50}$

Multiplication and division of integers
When we multiply or divide two integers of the same sign, the product is a positive number.

And when we multiply or divide two numbers of different signs, the quotient is a negative number.

Examples
Find the value of

(a) $-30 \div (-6)$
$= 5$

(b) $(-3) \times (+18)$
$= -54$