

Unit 3 Negative Numbers

Introduction

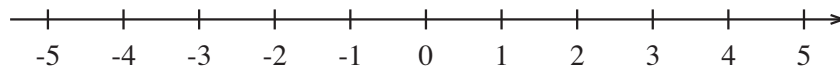
Learning objectives

This unit aims to give participants an understanding of

- the concept of negative numbers
- the addition and subtraction of negative numbers
- multiplication and division of negative numbers.

Facts to remember

Number line A number line is shown below.



Note that we can use inequalities signs, $<$ and $>$ to write that

$$2 > -1 \quad (2 \text{ is greater than } -1)$$

$$-3 < 3 \quad (-3 \text{ is less than } 3)$$

$$-5 < -2 \quad (-5 \text{ is less than } -2)$$

$$-1 > -4 \quad (-1 \text{ is greater than } -4)$$

Addition and subtraction A number line can be used to help in calculation.

For example,

$$2 - 3 = -1$$

$$-3 + 6 = 3$$

$$-2 + -3 = -5$$

Multiplication and division

Note that

$$(-1) \times (-1) = 1$$

$$(-1) \times 1 = -1$$

$$1 \times (-1) = -1$$

$$1 \times 1 = 1$$

and similarly for division; for example,

$$(-4) \times 2 = -8, \quad (-4) \times (-2) = 8$$

$$4 \times (-2) = -8, \quad 4 \times 2 = 8$$

$$(-4) \div 2 = -2, \quad (-4) \div (-2) = 2$$

$$4 \div (-2) = -2, \quad 4 \div 2 = 2$$