

UNIT 2 *Percentages*

Introduction to SIM

Learning objectives

This unit revises the important topic of *percentages* and its relationship to *fractions* and *decimals*, which have been covered in Unit 1. After completing this unit of STUDENT INSTRUCTIONAL MATERIAL (SIM) you should

- understand the equivalence of percentages, fractions and decimals and be able to convert between them
- be able to calculate percentages of quantities
- be able to calculate and use percentages in context
- be able to calculate percentage increase or decrease in quantities.

Key points and principles

- Percentages, fractions and decimals are equivalent.

For example, $\frac{1}{2} = 0.5 = 50\%$

- You can easily convert from one form to another.

For example, $25\% = \frac{1}{4} = 0.25$, $10\% = 0.1 = \frac{1}{10}$

Facts to remember

Equivalence of percentages, fractions and decimals; see examples shown in the table opposite.

Percentage increase (decrease) of a quantity is

$$\left(\frac{\text{actual increase (or decrease)}}{\text{initial value}} \times 100 \right) \%$$

Glossary of Terms

Percentage which is the part out of a hundred.

For example, 3% is $\frac{3}{100}$

Percentage increase (or decrease) in a quantity is

$$\left(\frac{\text{actual increase (or decrease)}}{\text{initial value}} \times 100 \right) \%$$

<i>Fraction</i>	<i>Decimal</i>	<i>Percentage</i>
$\frac{1}{10}$	0.1	10%
$\frac{1}{8}$	0.125	12.5%
$\frac{1}{5}$	0.2	20%
$\frac{1}{4}$	0.25	25%
$\frac{1}{3}$	0.3	$33\frac{1}{3}\%$
$\frac{1}{2}$	0.5	50%
$\frac{2}{3}$	0.6	$66\frac{2}{3}\%$
$\frac{3}{4}$	0.75	75%
1	1.0	100%