3.1 Rounding Off Numbers To Decimal Places

A. Idea of Rounding

In our daily life, we often come across figures which are **approximations** to the exact values of some quantities. Sometimes, an approximation to the exact value, such as a population figure, is easier to remember.

A speedometer can give only approximate speed readings.

Do you know what some of the reasons why we use approximations instead of exact figures are?

Well, one of the reasons is that the exact value of a quantity may not be possible to obtain due to the limitation of a measuring instrument used.

In primary schools, we have learnt to round off a value to the nearest 10, 100 or 1000.

Round off to the desired place value	Digit to consider	Digit is 5 or more	Digit is 4 or less
the nearest 10	digit in the ones place	round up	round down
the nearest 100	digit in the tens place	round up	round down
the nearest 1000	digit in the hundreds place	round up	round down

Note: We have to consider the correct digit when rounding off to different place values.

The exact figure of a country's population varies from time to time. In Singapore, the population depends on the birth and death of citizens and permanent residents as well as the influx of foreign workers.

Remark

Rounding off to whole numbers:

STEP 1 Mark a cut-off point after the desired place value.

STEP 2 If the first digit after the cut-off point is 4 or less, you round down the number. If this digit is 5 or more, you round up it.

STEP 3 Write the number that is rounded off and state the degree of accuracy.