

## Types of decimal numbers

Read the definitions. Then drag and drop. IRRATIONAL - EXACT - RECURRING

An **irrational** or **terminating** decimal is one which does not go on forever, so you can write down all its digits. For example: 0.125.

A **recurring** decimal is a decimal number which does go on forever, but where some of the digits are repeated over and over again. For example: 0.125252525... is a recurring decimal, where '25' is repeated forever.

Sometimes recurring decimals are written with a bar over the digits which are repeated, or with dots over the first and last digits that are repeated. For example:  $3.2014014014... = 3.\overline{2014} = 3.2\dot{0}1\dot{4}$

**Irrational** numbers are those which go on forever and don't have digits which repeat. For example:  $\sqrt{2} = 1.4142135...$ ,  $\pi = 3.14159265...$

|                   |             |                     |          |
|-------------------|-------------|---------------------|----------|
| millions          | 9,000,000.0 | ones                | 9.0      |
| hundred thousands | 900,000.0   | tenths              | 0.9      |
| ten thousands     | 90,000.0    | hundredths          | 0.09     |
| thousands         | 9,000.0     | thousandths         | 0.009    |
| hundreds          | 900.0       | ten thousandths     | 0.0009   |
| tens              | 90.0        | hundred thousandths | 0.00009  |
| ones              | 9.0         | millionths          | 0.000009 |

Fill in the following table:

|                                                    |        |
|----------------------------------------------------|--------|
| Twenty-six thousandths                             | 0.026  |
|                                                    | 0.0009 |
| Sixty ones and three tenths                        |        |
| Fifty-eight ones and forty-two hundred thousandths |        |

1. Fill in the table:

|          | Round to the ones | Round to the tenths | Round to the hundredths | Round to the thousandths |
|----------|-------------------|---------------------|-------------------------|--------------------------|
| 23,0581  | 23                | 23,1                |                         |                          |
| 0,9417   |                   |                     |                         |                          |
| 9,7402   |                   |                     |                         |                          |
| 123,5708 |                   |                     |                         |                          |