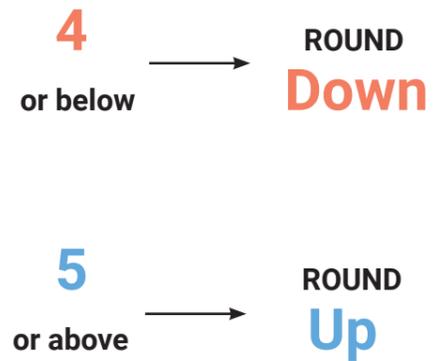


ROUNDING AND ESTIMATION

Check that you:

- understand place value in whole numbers and decimals
- recognise multiples of 10, 100 and 1000
- can work with multiples of 10, 100 and 1000.

Rules for rounding



Rounding to the nearest 10, 100 and 1000

Examples: 1) Round 674 to the nearest 10.



974
970

Draw a line after the tens.

Look at the digit to the right (units) and use the rules for rounding to decide whether the digit to the left (tens) should round up or down.

674 rounds down to 670.

2) Round 963 to the nearest 100.



963
1000

Draw a line after the hundreds.

Look at the digit to the right (tens) and use the rules for rounding to decide whether the digit to the left (hundreds) should round up or down.

963 rounds up to 1000.

3) Round 21 532 to the nearest 1000.



21532
22000

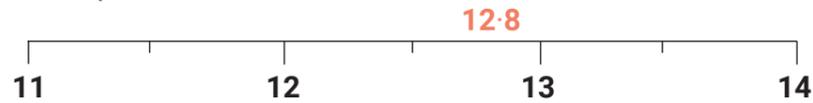
Draw a line after the thousands.

Look at the digit to the right (hundreds) and use the rules for rounding to decide whether the digit to the left (thousands) should round up or down.

21 532 rounds up to 22 000.

Rounding to the nearest whole number

Example: Round 12.8 to the nearest whole number.



12.8
13

Draw a line after the units.

Look at the digit to the right (tenths) and use the rules for rounding to decide whether the digit to the left (units) should round up or down.

12.8 rounds up to 13.

Rounding to 1 or 2 decimal places

Examples: 1) Round 5.623 to 1 d.p.



5.623
5.6

Draw a line after the tenths.

Look at the digit to the right (hundredths) and use the rules for rounding to decide whether the digit to the left (tenths) should round up or down.

5.623 rounds down to 5.6.

2) Round 0.0392 to 2 d.p.



0.0392
0.04

Draw a line after the hundredths.

Look at the digit to the right (thousandths) and use the rules for rounding to decide whether the digit to the left (hundredths) should round up or down.

0.0392 rounds up to 0.04.

Estimation We can use estimation to check our answers to calculations as it gives us a rough idea of the answer.

To estimate, we round numbers in the calculation to give easier numbers to work with, i.e., whole numbers and multiples of 10, 100 or 1000.

Example:

Showing all your workings, estimate an answer to $\frac{53 \times 754}{18}$.

$$\frac{53 \times 754}{18} \approx \frac{50 \times 800}{20}$$

$$\approx \frac{40000}{20}$$

$$\approx 2000$$

The symbol \approx means approximately.

Remember to clearly show how you have rounded the numbers in order to estimate your answer. Your work should be set out in a way that is easy to follow and to understand.