

Rounding

Decimal Places (dp)

- When we round to decimals, we start counting as soon as we reach the decimal point.

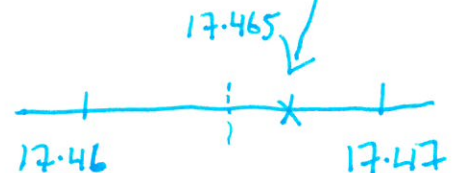
Round 17.46789 to 2 decimal places

1 decimal place

2 decimal places, this will stay a 6 or go to a 7 depending on what the next number is

either 17.46
or 17.47 ✓

17.47 (2dp)



Significant Figures (sf)

- When we round to significant figures, we start counting as soon as we reach a **number that is not zero**

Round 17.46789 to 2 significant figures

T u
17.



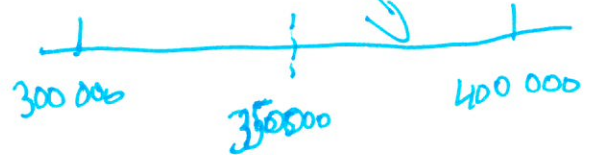
either 17 ✓
or 18 ✗

17 (2 s.f.)

Round to 1 sf

10^4 10^4 10^3 10^2 10^1 10^0
 100Th 10Th TL H T U
3 7 8 5 3 7

400,000 (to 1s.f)



Round to 3 sf

3 7 8 4 3 7

either 378000
 or 379000

So 378000 (to 3 sf)



Round to 2 sf

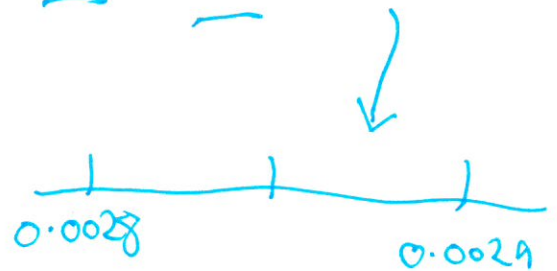
0.00289

either
or

0.0028

0.0029

0.0029 (2sf)



Round to 3 sf

0.002087

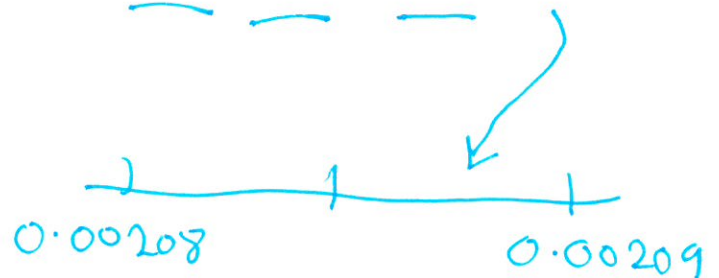
either

0.00208

or

0.00209

0.00209 (3sf)



Rounding to Significant Figures

1. What is the difference between rounding to significant figures and rounding to decimal places?
2. Round the following numbers to a) 1 sig fig b) 2 sig fig c) 3 sig fig
 - i. 1463.8
 - ii. 157.26
 - iii. 37.096
 - iv. 6.0936
 - v. 0.006403
3. Work out the following on a calculator and give the answer to 2 significant figures:

a. $\sqrt{22}$

b. $\frac{3.2 \times 0.2^2}{2.3}$

c. $\sqrt{\frac{4.44 \times 0.3^2}{11}}$

d. $\frac{\pi \times 17}{0.1} + \sqrt{14}$

