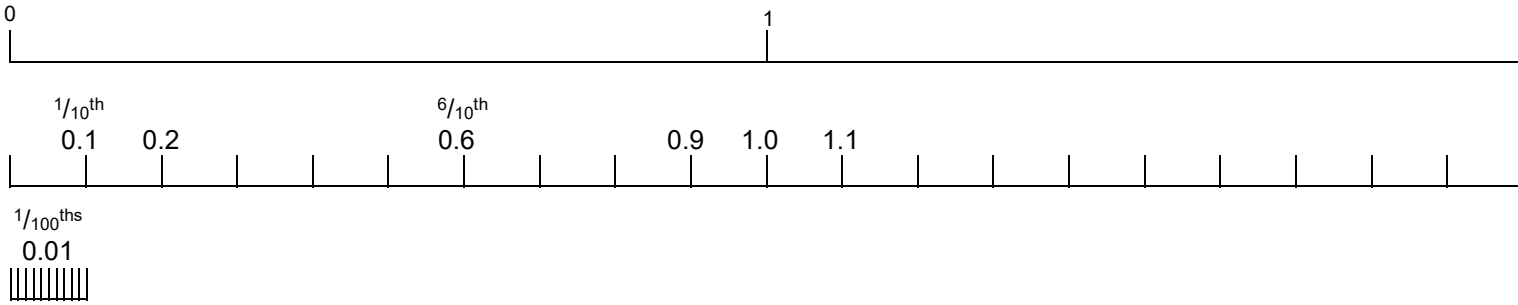


Decimals

What is a decimal number Needed when whole numbers are not adequate



The decimal point

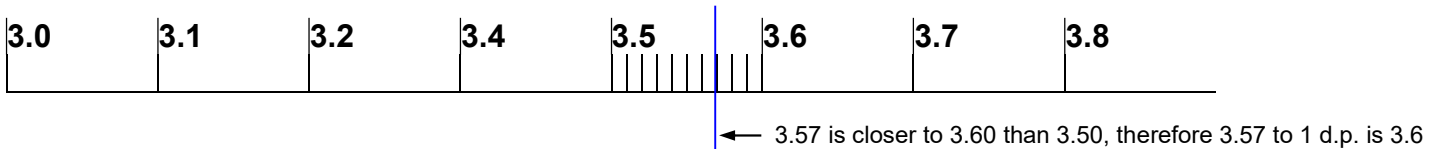
Thousands	Hundreds	Tens	Units		Tenths	Hundredths	Thousandths
1,000	100	10	1	.	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1,000}$
1	2	3	4	.	5	6	7

Place Values

Hundreds	Tens	Units	.	Tenths	Hundredths	Thousandths	
	2	4	.	6	0	8	= 24 + $\frac{6}{10}$ + $\frac{8}{1000}$
3	6	7	.	9	2	5	= 367 + $\frac{9}{10}$ + $\frac{2}{100}$ + $\frac{5}{1000}$
		0	.	0	0	7	= 0 + $\frac{7}{1000}$
2	0	5	.	0	1	1	= 205 + $\frac{1}{100}$ + $\frac{1}{1000}$

The value of a digit depends on its place

Rounding to 1, 2 and 3 decimal places



When rounding, look at the **number** to the right of the decimal place you are rounding to, if this **number** is 5 or above then the round upwards.

3.67 to 1 d.p. = 3.7 **3.62 to 1 d.p. = 3.6** **3.65 to 1 d.p. = 3.7**

<p>ADDITION AND SUBTRACTION This can be done just like adding and subtracting whole numbers, just make sure you line up the decimals points when laying out the your work. Examples $\begin{array}{r} 2.84 \\ + 1.12 \\ \hline 3.96 \end{array}$ $\begin{array}{r} 14.86 \\ - 9.23 \\ \hline 5.63 \end{array}$</p>	<p>MULTIPLICATION First carry out the multiplication as if there were no decimal points. 2.48×3.12 (notice there are 2 decimal places in the first number and 2 in the second) Example $\begin{array}{r} 248 \\ \times 312 \\ \hline 496 \\ 2480 \\ 74400 \\ \hline 77376 \end{array}$ <p>As there were 4 decimal places in the question their must be 4 in the answer. So the correct answer is 7.7376</p> </p>
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DIVISION
The division process is the same as with whole numbers, however if the number you are dividing by is not a whole number then multiply it by a factor of 10 until it becomes a whole number. You must also then multiply the number you will be dividing into by the same amount so that the overall division remains the same.
Example $1.565 \div 0.5$
The 0.5 needs to be turned into a whole number, therefore it must be multiplied by 10. To keep the overall division the same, the number you are dividing into (1.565) must also be multiplied by 10. The division becomes $15.65 \div 5.0$

$$\begin{array}{r} 3.13 \\ 5 \overline{)15.65} \end{array}$$

Decimal Scales

What value is the arrow pointing at?



Place Value and conversion from decimals to fractions

Put each of the following decimals into the table below, and write the same number in units fractions of tenths, hundredths and thousandths

0.17 2.64 12.67 0.004 3.06 85.002 55.094 1.026 0.345 40.368

Hundreds	Tens	Units	.	Tenths	Hundredths	Thousandths	
							=
							=
							=
							=
							=
							=
							=
							=
							=
							=
							=

Write these fractions as decimals

$$1/10$$

$$1/100$$

$$1/1000$$

$$3/10$$

$$25/100$$

$$162/1000$$

$$7/10$$

$$56/100$$

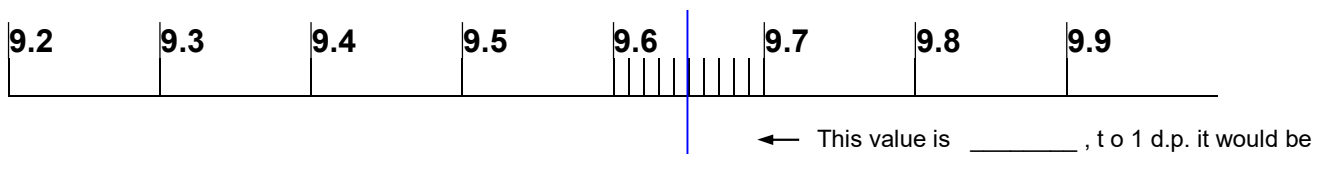
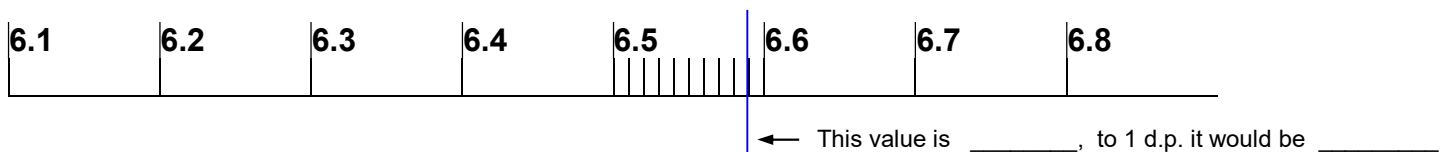
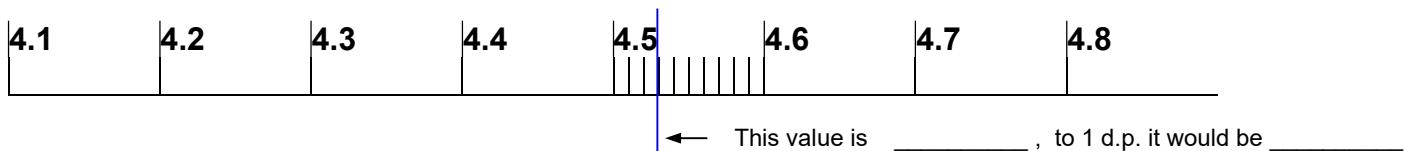
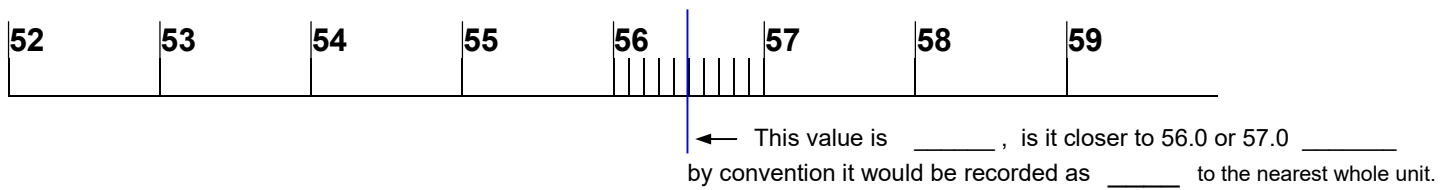
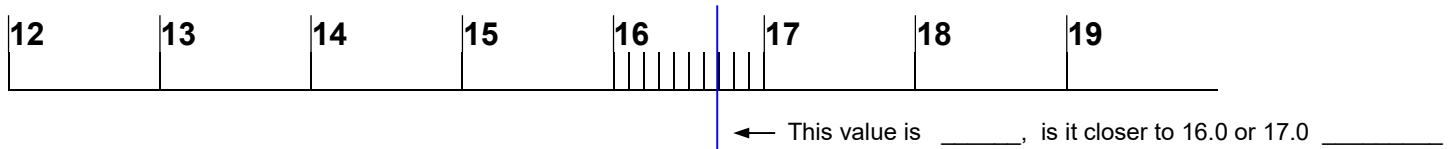
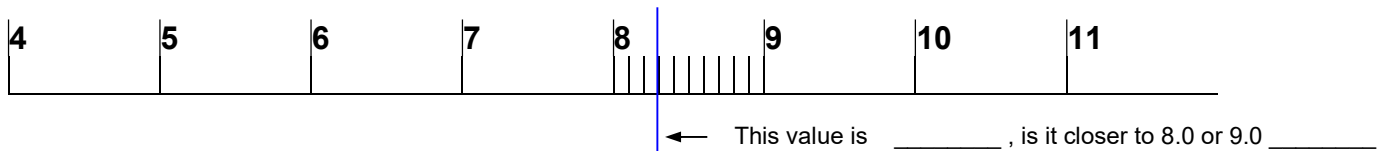
$$804/1000$$

$$14/10$$

$$237/100$$

$$4568/1000$$

Rounding



Write these numbers correct to 1 d.p.

- 1.26
- 2.61
- 5.55
- 12.09
- 40.89

Write these numbers correct to 2 d.p.

- 3.667
- 15.722
- 10.565
- 102.099
- 65.391