ROUNDING

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2	Round to a given Significant Figure
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Decimals - Ordering, Rounding and Scales

Write these decimals in order of size, smallest to largest

1)	0.2	0.201	0.21	0.12
2)	0.372	0.273	0.327	0.237

Round these numbers to ONE DECIMAL PLACE

Question	Number	to 1 d.p.
example	12.47	12.5
3	0.87	
4	1.082	
5	0.91	
6	5.98	
7	10.129	
8	1.99	
9	125.38	
10	1.2356	

Round these numbers to TWO DECIMAL PLACES

Question	Number	to 2 d.p.
example	12.476	12.48
11	1.234	
12	6.365	
13	0.853	
14	12.659	
15	10.129	
16	125.026	
17	8.489	
18	1.999	

Round the number 456.283 to

19)	nearest hundred	
20)	nearest ten	
21)	nearest whole number	
22)	1 decimal place	
23)	2 decimal places	

Rounding to a given number of significant figures

The first significant figure is the first non-zero figure in a number when moving from left to right.
Once you have found the first significant figure, number the other significant figures, without gaps.
You may need to use zeros to hold a number in its place value column.

Qu.1 35072

	3	5	0	7	2
to 1sf					
to 2sf					
to 3sf					
to 4sf					
to 5sf					

Qu. 2 2.8378

	2 ●	8	3	7	8
to 1sf					
to 2sf					
to 3sf					
to 4sf					
to 5sf					

Qu. 3 0.0672

	0 ●	0	6	7	2
to 1sf					
to 2sf					
to 3sf					

Qu. 4 687.72

	6	9	7 ●	7	2
to 1sf					
to 2sf					
to 3sf					
to 4sf					
to 5sf					

Qu. 4 0.0080990

	0 ●	0	0	8	0	9	9	0
to 1sf								
to 2sf								
to 3sf								
to 4sf								
to 5sf								

Exercise 1 Round these numbers to 1 significant figure.

1) 45.4839 2) 3049 3) 356 4) 0.0367

5) 2.09 6) 3.8947 7) 0.0786 8) 7896.5677

Exercise 2 Round these numbers to 2 significant figures.

1) 45.4839 2) 3049 3) 356 4) 0.0367

5) 2.09 6) 3.8947 7) 0.0786 8) 7896.5677

Exercise 3 Round every number to 1 s.f. Then work out the answer to the sum. Remember order of operations.

1) 3.4×4.8

2) $45.36 + 38.2$

3) $65.36 - 19.25$

4) $41.238 \div 4.908$

5) $2.3 + 5.98 + 12.36$

6) 3.25×2.14

7) 3.68×0.227

8) 28.85×47.9

9) $2.43 + 3.56 \times 4.68$

10) 5.892^2

To get an **approximate answer** to a sum round each number to **1 significant figure** and then work out the answer.

3.45 x 5.98 becomes 3 x 6 = 18

344 x 67 ÷ 4.789 becomes 300 x 70 ÷ 5 = 21000 ÷ 5 = 4200

If a question involves a **square root**, round the square root to the nearest square number (1,4, 9, 16, 25 ..)

3.78 x $\sqrt{26}$ becomes 4 x $\sqrt{25}$ = 4 x 5 = 20

Exercise 1 Round these numbers to 1 significant figure.

1) 45.4839 2) 3049 3) 356 4) 0.0367

5) 2.09 6) 3.8947 7) 0.0786 8) 7896.5677

Exercise 2 Work out an approximate answer to -

1) 34.36 x 5.347

2) 73.237 - 4.637 x 7.8

3) $\sqrt{35}-\sqrt{17}$

4) 41.238 ÷ 4.908

5) $\dfrac{\sqrt{26}\times 1.84}{0.48}$

6) 3.25 x 2.14

7) 3.68 x 0.227

8) 28.85 x 47.9

9) $\dfrac{34.67\times 43.78}{5.98}$

10) $\dfrac{0.623\times 8.321}{2.9\times 4.1}$

11) Sara worked this out on her calculator $\dfrac{19.8\times 3.9}{19.8-3.9}$, her calculator showed

3.258227848

Write down a calculation Sara could do in her head to check whether her answer is correct.

12) Estimate the answer to $\frac{1}{2}$ x 78.2 x $(5.1)^2$

Round these numbers to 1 significant figure

1) 235 2) 0.0056 3) 2.06 4) 12.36

5) 256000 6) 1.99 7) 25.6 8) 0.00098

Round these numbers to 2 significant figures

9) 55686 10) 0.25687 11) 4002 12) 0.000999

Obtain approximate answers to these questions

13) 5.36 x 89.235 14) 789 ÷ 42.365

15) 32.25 – 3.4 x 5.2 16) $\frac{53.26+29.255}{1.8965+6.23556}$

17) $0.4896 \times \sqrt{63.25}$ 18) $\sqrt{24.258} + \sqrt{80.25}$

19) $\frac{0.965}{0.213+0.3058}$ 20) 2.0356×23.56^2

21) Sally is saving for a new car. She has saved £61.25 per week for 2 years. The car costs £6500. Write down an APPROXIMATE calculation she could do to see if she has saved enough money?

Would your calculation be an over or under estimate?

22) John bought 4 items A, B, C and D at a shop.

Item	Unit Cost	Number bought	Total cost
A	2.56	17	
B	12.25	35	
C	89p	22	
D	130.25	2	

By APPROXIMATING find the total cost of his shopping.