

Task 1 - significant figures cards

2479

312

209

72

300

9

3002

0.353

0.4050

0.52

0.70

0.7097

0.703

0.0002

Task 2 - significant figures by Donald

Question 1: Here are some measurements taken in a Science lesson. How many significant figures are in each of these numbers?

Number	Number of significant figures	Marks and comments
1	1	
765	3	
7000	4	
3205	3	
5.398	4	
0.25	2	
0.0003	4	
0.500000	1	

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Question 2: Write each of the following numbers to the given number of significant figures.

Number	Number of significant figures	Answer	Marks and comments
4553	3	455	
5390	2	5300	
21	1	20	
9788	1	9000	
0.0000058763	2	0.0000058	
0.000030456	2	0.0000304	
7.994	2	7.9	
3.141592654	4	3.142	

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Feedback for Donald:

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Answers

2479 (4 s.f.)

312 (3 s.f.)

209 (3 s.f.) - *as zeros between two significant figures are significant*

72 (2 s.f.)

300 (1 s.f.) - *as trailing zeros not in the decimal portion are not significant*

9 (1 s.f.)

3002 (4 s.f.) - *as zeros between two significant figures are significant*

0.353 (3 s.f.)

0.4050 (4 s.f.) - *as trailing zeros in the decimal portion are significant*

0.52 (2 s.f.)

0.70 (2 s.f.) - *as 0 is in the decimal portion after a significant figure*

0.7097 (4 s.f.)

0.7030 (4 s.f.) - *as 0 is in the decimal portion after a significant figure*0.0002 (1 s.f.) - *as leading zeros are not significant***Task 2 answers**

Number	Number of significant figures	Expected marking/comments
1	1	✓
765	3	✓
7000	4	<i>x - should be 1 s.f. as trailing zeros are not significant unless in decimal portion</i>
3205	3	<i>x - should be 4 s.f. as zeros between two significant figures are significant</i>
5.398	4	✓
0.25	2	✓
0.0003	4	<i>x - should be 1 s.f. as leading zeros are not significant</i>
0.500000	1	<i>x - should be 6 s.f. as trailing zeros in the decimal portion are significant</i>

Question 2: Write each of the following numbers to the given number of significant figures.

Math skills in Science – significant figures

Number	Number of significant figures	Answer	Expected marking / comments
4553	3	455	<i>x - missed off a zero on the end</i>
5390	2	5 300	<i>x - rounded the third digit wrongly</i>
21	1	20	✓
9788	1	9 000	<i>x - this is 1 s.f. but it should be 10 000</i>
0.0000058763	2	0.0000058	<i>x - this is 2 s.f. but it should be 5<u>9</u></i>
0.000030456	2	0.0000304	<i>x - the zero between the 3 and 4 is significant</i>
7.994	2	7.9	<i>x - incorrect rounding again!</i>
3.141592654	4	3.142	✓ - Hooray!

General feedback for Donald - his main issue seems to be rounding, but also needs to recheck the rules - in particular, he's made two errors with zeros between significant figures.