

Name _____

Date _____

Determining the Number of Significant Figures Lesson

How many significant figures are present in each value?

A) 500

B) 910.

C) 1.0007

D) 0.00908



Explanation:

There are three rules that we need to apply to determine the number of significant figures a value has:

1. All non-zero digits (1, 2, 3, 4, 5, 6, 7, 8, 9) are always considered significant.
2. Any zero (0) located between significant digits are significant.
3. When a decimal point (.) is present, all ending or trailing zeros in the decimal portion are significant. You should always look for a decimal point first to see how to proceed.

A) 500

Step 1) A decimal point is not present. This means that the ending zeros are not significant.

Step 2) Only 1 non-zero appears: 500

The final answer is that only 1 significant digit is present.



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B) 910.

Step 1) A decimal point is present. This makes the zero significant.

Step 2) There are 2 non-zeros (9 and 1).

The final answer is that 3 significant digits are present.

C) 1.0007

Step 1) The zeros would be considered significant because they follow rule #2. All of the zeros are located between significant digits (1 and 7).

Step 2) There are 2 non-zeros (1 and 7).

The final answer is that 5 significant digits are present.

D) 0.00908

Step 1) A decimal point is present. The first three zeros (0.00908) are not located between significant digits. This means that they are not considered significant.

Step 2) There are 2 non-zeros (9 and 8).

Step 3) The zero between the significant digits (9 and 8) is considered significant.

The final answer is that 3 significant digits are present.

