**Significant Figures**

("SIG FIGS")

EXACT numbers are counted numbers and are considered to be perfectly precise.

APPROXIMATE numbers are measured numbers and are subject to some uncertainty in their precision.

The following rules apply to approximate numbers:

1. All digits 1-9 are "significant". $349.27 \text{ g} = 5 \text{ sigfigs}$
2. All zeroes in between are significant. $207 \text{ mL} = 3 \text{ s.f.}$
3. All zeros to the left are NOT significant. $0.067 \text{ L} = 2 \text{ s.f.}$
4. All zeros to the right are
   a) significant if there is a decimal $250.0 \text{ mg} = 4 \text{ s.f.}$
   b) NOT significant if there is no decimal $250 \text{ mg} = 2 \text{ s.f.}$

-\[ a) \ 2.60 = 2 \quad e) \ 8.700 \times 10^5 = 4 \]
-\[ b) \ 10.365 = 5 \quad f) \ 870 \, 000 = 2 \]
-\[ c) \ 0.001 = 1 \quad g) \ 5.62 \times 10^{-2} = 3 \]
-\[ d) \ 0.0010 = 2 \quad h) \ 4 \times 10^{10} = 1 \]

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\times/\div\quad \text{the answer can only have as many sig figs as the number in the question with the fewest.}
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25.0 \text{ mL} \times 2.7 \text{ g} = 67.5 \text{ g} \approx 68 \text{ g}
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+/-\quad \text{the answer can only have as many DECIMAL PLACES as the number in the question with the fewest.}
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25 + 2.7 = 27.7 \approx 28
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