

**Significant Figures:** When multiplying/dividing keep least SigFigs of numbers worked with in final answer.

How many SigFigs do each of these contain? What about Significant Digits?

1. 5.682
2. 100
3. 100.
4. 0.00582
5. 1.00582
6. 0.005820
7. 62.4050
8.  $1.6 \times 10^{-4}$

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1. 4  
Pretty easy, just count the numbers.
  2. 1  
The two zeroes are not defined specifically. For all you know, the answer could of been 99 rounded up. Unless the last zero was defined, you must assume this is one SigFig.
  3. 3  
The period at the end tells us that this is exactly 100.
  4. 3  
You do not count the zeroes before unless there is a significant number before the zeroes, like the next one.
  5. 6  
The "1" makes the two zeroes between significant.
  6. 4  
The zero after the 582 is counted because that is specific.
  7. 6  
Both zeroes are counted as significant.
  8. 2  
If you think about this, that number is equivalent to 0.00016. The zeroes before are not considered significant.

Sig. Digits: When Adding/Subtracting keep least Sig.Dig.'s of numbers worked with.

1. 3
2. 0
3. 0
4. 5
5. 5
6. 6
7. 4
8. 1

$(3.456)(.000008) = 0.000027648$  sig.fig. answer would be .00003 because mult./div. goes with 1 sig. fig. in the .000008

But

$(3.456)+(.000008) = 3.456008$  sig.fig. answer would be 3.456 because +/- goes with the 3 sig. digits