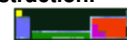


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AP WORKSHEET 1a: Significant Figures

1. Determine the number of significant figures in each of the following. (6)
 - (a) 0.7680
 - (b) 1230.00
 - (c) 1000.01
 - (d) 120.0
 - (e) 1.09×10^4
 - (f) 0.0080060
2. Use a calculator to find the results of the following and then round the answer to the correct number of significant figures. (6)
 - (a) $34.66 + 333.0$
 - (b) $1.23 + 9.66$
 - (c) $445 - 1.22$
 - (d) $18.2 + 1.998$
 - (e) $10.2 - 1.34$
 - (f) $100 - 23$
3. State the significant figure rule that is associated with "captive zeros". (1)
4. State the significant figure rule that is associated with "leading zeros". (1)
5. State the significant figure rule that is associated with "trailing zeros". (1)
6. State the significant figure rule that is associated with addition and subtraction operations. (1)
7. State the significant figure rule that is associated with multiplication and division operations. (1)

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8. Use a calculator to find the results of the following calculations and then round the answer to the correct number of significant figures. (6)
- (a) 12×11.45
 - (b) $(1.23 \times 10^3) \times (6.4 \times 10^2)$
 - (c) 5.233×6.324
 - (d) $34 / 22$
 - (e) $(1.8 \times 10^5) / 14$
 - (f) $100.23 / 5.22$
9. Round each of the following to three significant figures. (6)
- (a) 167.789
 - (b) 0.0000456922
 - (c) 23.00567
 - (d) 3.4569
 - (e) 7903.0005
 - (f) 11.044
10. How many significant figures in each of the following? (6)
- (a) 654.001 nm
 - (b) 6.02×10^{23} particles
 - (c) 1.0079 g
 - (d) 13 neutrons
 - (e) 11.22201 mg
 - (f) 0.004504 g