

## ***Chemistry 11***

### ***Worksheet on Significant Digits***

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Determine the number of significant digits in each of the following:

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|-------------------------------|-------------------------------|
| 1) 5.432 g                    | 2) 40.319 g                   |
| 3) 146 cm <sup>3</sup>        | 4) 3.284 cm                   |
| 5) 0.189 kg                   | 6) 429.3 g                    |
| 7) 2 873.0 cm <sup>3</sup>    | 8) 99.9 mL                    |
| 9) 0.000 235 g                | 10) 144 L                     |
| 11) 2500 cm                   | 12) 2 500.0 g                 |
| 13) 1.04 x 10 <sup>14</sup> g | 14) 3.58 x 10 <sup>-9</sup> m |
| 15) 48.571 93 m <sup>3</sup>  | 16) 0.002 300 mg              |
| 17) 300 000 240. km           | 18) 450 003.400 L             |
| 19) 7.500 mg                  | 20) 1.000 g                   |
| 21) 3.92 x 10 <sup>-3</sup> g | 22) 1 003 L                   |

Add or subtract the following as indicated, remembering the rules for significant digits.

- 23) 12 cm + 0.031cm + 7.969 cm =  
24) 3.419 g + 3.912 g + 7.0518 g + 0.000 13 g =  
25) 0.085 cm + 0.062 cm + 0.14 cm =  
26) 143.0 cm + 289.25 cm + 7.051 8 cm =  
27) 30.5 g + 16.82 g + 41.07 g + 85.219 g =  
28) 29.49 cm + 83.46 cm + 107.05 cm + 26.617 cm =  
29) 0.065 3 g + 0.08538 g + 0.076 54 g + 0.043 2 g =  
30) 63.489 mL + 126.1 mL + 68.85 mL + 12.05 mL =  
31) 41.025 cm – 23.28 cm =  
32) 289 g – 43.7 g =  
33) 145.63 mL – 28.9 mL =  
34) 62.47 g – 39.9 g =  
35) 40.008 mL – 29.094 1 mL =

Multiply or divide as directed, rounding off to the proper number of significant digits. Remember to include the proper unit of the answer.

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| 36) 2.89 cm x 4.01 cm =                  | 37) 17.3 cm x 6.2 cm =                   |
| 38) 3.08 m x 1.2 m =                     | 39) 5.00 mm x 7.321 6 mm =               |
| 40) 20.8 dm x 123.1 dm =                 | 41) 5 cm x 5 cm =                        |
| 42) 5.0 cm x 5 cm =                      | 43) 5.0 cm x 5.0 cm =                    |
| 44) 4.218 cm x 6.5 cm =                  | 45) 150.0 m x 4.00 m =                   |
| 46) 282.2 km x 3.0 km =                  | 47) 8.071 cm <sup>2</sup> ÷ 4.216 cm =   |
| 48) 109.375 8 m <sup>2</sup> ÷ 5.813 m = | 49) 24 789.4 km <sup>2</sup> ÷ 43.5 km = |
| 50) 6.058 mm <sup>2</sup> ÷ 0.85 mm =    | 51) 4.819 cm <sup>2</sup> ÷ 9.852 cm =   |
| 52) 139.482 m <sup>2</sup> ÷ 68.75 m =   | 53) 4.23 m <sup>2</sup> ÷ 18.941 m =     |

$$54) 0.057 \text{ mL} \times \frac{760 \text{ mm}}{740 \text{ mm}} \times \frac{273 \text{ K}}{250 \text{ K}} =$$

$$55) 142.0 \text{ mL} \times \frac{745 \text{ mm}}{785 \text{ mm}} \times \frac{300.0 \text{ K}}{295 \text{ K}} =$$

$$56) 51.3 \times \frac{44.962 \text{ amu}}{115.874 \text{ amu}} =$$