Chemistry 11
Worksheet on Significant Digits

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

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

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

23) 12 cm + 0.031cm + 7.969 cm = 20 cm
24) 3.419 g + 3.912 g + 7.0518 g + 0.000 13 g = 14.383 g
25) 0.085 cm + 0.062 cm + 0.14 cm = 0.29 cm
26) 143.0 cm + 289.25 cm + 7.051 8 cm = 439.3 cm
27) 30.5 g + 16.82 g + 41.07 g + 85.219 g = 173.6 g
28) 29.49 cm + 83.46 cm + 107.05 cm + 26.617 cm = 246.62 cm
29) 0.065 3 g + 0.08538 g + 0.076 54 g + 0.043 2 g = 0.2704 g
30) 63.489 mL + 126.1 mL + 68.85 mL + 12.05 mL = 270.5 mL
31) 41.025 cm – 23.28 cm = 17.74
32) 289 g – 43.7 g = 245 g
33) 145.63 mL – 28.9 mL = 116.7 mL
34) 62.47 g – 39.9 g = 22.6 g
35) 40.008 mL – 29.094 1 mL = 10.914 mL

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

36) 2.89 cm x 4.01 cm = 11.6 cm^2
37) 17.3 cm x 6.2 cm = 1.1 x 10^2 cm^2
38) 3.08 m x 1.2 m = 3.7 m^2
39) 5.00 mm x 7.321 6 mm = 36.6 mm^2
40) 20.8 dm x 123.1 dm = 2560 dm^2
41) 5 cm x 5 cm = 2x10cm^2
42) 5.0 cm x 5 cm = 2 x 10 cm^2
43) 5.0 cm x 5.0 cm = 20 cm^2 or 2.0 x 10 cm^2
44) 4.218 cm x 6.5 cm = 27 cm^2
45) 150.0 m x 4.00 m = 600. m^2
46) 282.2 km x 3.0 km = 8.5 x 10^2 km^2
47) 8.071 cm^2 ÷ 4.216 cm = 1.914 cm
48) 109.375 8 m^2 ÷ 5.813 m = 18.82 m
49) 24 789.4 km^2 ÷ 43.5 km = 0.570 km
50) 6.058 mm^2 ÷ 0.85 mm = 7.1 mm
51) 4.819 cm^2 ÷ 9.852 cm = 0.4891 cm
52) 139.482 m^2 ÷ 68.75 m = 2.029 m
53) 4.23 m^2 ÷ 18.941 m = 0.223 m

54) 0.057 mL x $\underline{760 \text{ mm}}$ x $\underline{273 \text{ K}}$ = 0.064 mL
        740 mm   250 K

55) 142.0 mL x $\underline{745 \text{ mm}}$ x $\underline{300.0 \text{ K}}$ = 137 mL
        785 mm   295 K

56) 51.3 x $\underline{44.962 \text{ amu}}$ = 19.9
        115.874 amu