Chemistry 101 – Unit 3
Practice Problems

Identify the number of significant figures in the following:

1. 54.304 g
2. 12 in
3. 0.008511 g/cm
4. 45.0 mL
5. 1030. mm
6. 100 cm/m
7. 453.59 g/lb
8. 43400 mg
9. 5
10. 55 s
11. 102000 mm
12. 54.00 mL
13. 10.00 g
14. 0.03070 L
15. 16 oz/lb
16. 2.54 cm/in
17. 125
18. 138 g
19. 40.070 g
20. 0.0000618 cm^3
21. 480. min
22. 620 mL
23. 3.40×10^2 m/s
24. 4.00×10^{-3} L
25. 3.00×10^{10} cm/s
26. 60 s/min
27. 0.94635 L/qt
28. 1000 mL/L
29. 1×10^{10} mg
30. 45
31. 0.00318 cm^2
32. 5.000 mL
33. 7500 m
34. 3500. g
35. 6.020 lb
36. 0.040500 kg
37. 10400 mm
38. 4 qt/gal
39. 13.6 g/mL
40. 35.3 mi/hr
41. 105.2 L
42. 18.02 g/mol
43. 1000 mg/g
44. 15 km
45. 20.00 mL
46. 1025
47. 0.00004 g
48. 450. oz
49. 3.200 s
50. 4.000×10^2 g

Solve the following using the proper number of significant figures.

1. $107.40\ g - 98.107.40\ g =$
2. $6.248 \times 10^{-3}\ m + 9.342 \times 10^{-2}\ m =$
3. $85\ mL + 55.3\ mL =$
4. $8.0\ g \times 5.2\ cm =$
5. $13.68\ ft \times \frac{12\ in}{1\ ft} \times \frac{2.54\ cm}{1\ in} \times \frac{10\ mm}{1\ cm} =$
6. $3.542\ lb \times 2 =$
7. $\frac{50.0\ km}{2\ hr} =$
8. $252.0\ g / 84.00\ mL =$
9. $9.3 \times 10^{2}\ mi + 4.32 \times 10^{3}\ mi =$
10. $100.780\ g - 99.86\ g =$
11. $\frac{3.52 \times 10^{-3}\ g}{4.3 \times 10^{-5}\ g} \times 2 \times \frac{1.002\ amu}{1\ atom} =$
12. $55.3892\ cm / 9.00\ s =$
13. $15.08\ mm \times 5\ mm =$
14. $1.234\ cm^{3} \times 7 =$
15. $\frac{7.8 \times 10^{-5}\ cm^{3}}{3.89 \times 10^{2}\ cm^{2}} =$

Write the factor that would be used to convert the following:

a) g ➔ mg **1000 mg / 1 g**

b) cm ➔ m

c) in ➔ ft

d) s ➔ min

e) min ➔ hr

f) gal ➔ qt

g) ft ➔ mi

h) m ➔ km

i) lb ➔ g

j) L ➔ qt

k) kg ➔ g

l) days ➔ weeks

m) hr ➔ min

n) years ➔ days

o) in ➔ cm

p) mm ➔ m

q) L ➔ cL

r) pt ➔ cups