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| ***Dimensional Analysis Practice***  ***Complete the following problems on a separate paper. Use dimensional analysis for each problem. SHOW ALL YOUR WORK!*** |
| **1.   Convert 14 mm to its equivalent in m.** |
| **2.   Convert 35 kg to its equivalent in g.** |
| **3.   Convert 57 mL to its equivalent in L.** |
| **4.   Convert a speed of 88 m/s to its equivalent in cm/s.** |
| **5.   Convert a density of 9.45 g/L to its equivalent in g/mL.** |
| **6.   The density of mercury metal is 13.6 g/mL.   What is the mass of 3.55 mL of the metal?** |
| **7.   The density of lead is 11.3 g/mL.   What is the mass of 45 mL of the metal?** |
| **8.   The density of table salt, NaCl, is 2.16 g/mL.  What is the mass of 100.0 mL of this solid?** |
| **9.   A particle moves through a gas at a speed of 15 km/s.  How far will it move in 5.5 s?** |

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| **10.   Convert 15.9 mm to its equivalent in km.** |
| **11.   Convert 0.0982 hg to its equivalent in cg.** |
| **12.   Convert 13,455 g to its equivalent in kg.** |
| **13.   Convert a speed of 73.5 km/hr to its equivalent in m/s.** |
| **14.   Convert a density of 4.52 g/mL to its equivalent in kg/L.** |
| **15.   The density of iron is 7.86 g/mL.   What volume of iron will have a mass of 50.00 g?** |
| **16.   The density of helium gas is 0.178 g/L.   What would be the mass of 375.0 mL of this gas?** |
| **17.   A particle moving through a gas at a speed of 45.8 m/s strikes one wall of the container, bounces off and hits the other wall 25.0 cm away.  How long did it take to go from one wall to the other?** |
| **18.   Convert 32.5 oz to its equivalent in cg.** |
| **19.   Convert 3.55 yd to its equivalent in cm.** |
| **20.   Convert 143.55 mL to its equivalent in pints.** |
| **21.   Convert a speed of 35.8 mi/hr to its equivalent in m/s.** |
| **22.   Convert a density of 13.6 g/mL to its equivalent in lb/ft3.** |