## Density Drill

## Find:

| volume of 20.0 g of lead ( $\mathrm{d}=11.35 \mathrm{~g} / \mathrm{mL}$ ) | answers $\downarrow$ |
| :---: | :---: |
| mass of 25 mL of isopropyl alc ohol ( $\mathrm{d}=0.786 \mathrm{~g} / \mathrm{mL}$ ) | 1.76 mL |
| density of a metal with $\mathrm{m}=8.00 \mathrm{~g}$ and $\mathrm{V}=2.96 \mathrm{~cm}^{3}$ | 20. g |
| volume of 158 g water ( $\mathrm{d}=1.00 \mathrm{~g} / \mathrm{mL}$ ) | $2.70 \mathrm{~g} / \mathrm{cm}^{3}$ |
| mass of 1.00 L coke a cola ( $\mathrm{d}=1.1 \mathrm{~g} / \mathrm{mL}$ ) | 158 mL |
| density of gold (one cube with $\mathrm{s}=2.0 \mathrm{~cm}$ has $\mathrm{m}=154.4 \mathrm{~g}$ ) | $1100 \mathrm{~g}(1.1 \mathrm{~kg})$ |
| volume of 325 mg a spirin ( $\mathrm{d}=1.40 \mathrm{~g} / \mathrm{cm}^{3}$ ) | $19 \mathrm{~g} / \mathrm{cm}^{3}$ |
| mass of water in a 10. gallon fish tank ( $\mathrm{d}=1.00 \mathrm{~g} / \mathrm{mL}$ ) | $0.232 \mathrm{~cm}^{3}$ |
| density of a liquid that occupies 8.42 mL and has a mass of 9.7 g | 38 kg (83 lbs) |
| volume of 1.00 pound of lead ( $\mathrm{d}=11.35 \mathrm{~g} / \mathrm{cm}^{3} ; 2.2 \mathrm{lbs}=1.0 \mathrm{~kg}$ ) | $1.2 \mathrm{~g} / \mathrm{mL}$ |
| mass of 1 cup ( 8.0 fl . oz) of merc ury ( $\mathrm{d}=13.5 \mathrm{~g} / \mathrm{mL}$ ) | 40. $\mathrm{cm}^{3}$ |
| density of a gasthe occupies 0.5000 Land has a mass of 800.0 mg | 3.2 kg (7.0 lbs) |
| mass of 1.0 L of human blood (ave. $\mathrm{d}=1.06 \mathrm{~g} / \mathrm{mL}$ ) | $1.600 \mathrm{~g} / \mathrm{L}$ |
| volume of 10.0 kg of ga soline ( $\mathrm{d}=0.71 \mathrm{~g} / \mathrm{mL}$ ) | 1.1 kg |
| If liquid $A$ floats on liquid $B$ and liquid $C$ floats on liquid $B$ what can we conclude about the relative densities of liquid $A$ and $C$ ? | 14 L |
|  | Nothing, either could be denser compared to the other and they would both float on liquid $B$ |
| If a solid, non-porous object floats in liquid $A$ and sinks in liquid $B$ what can we conclude about the relative densities of liquid $A$ and $B$ ? |  |
|  | We would conclude liquid $A$ is denserthan liquid $B$ |
| If two liquids with different densities are combined forming a mixture and do not chemically react with each other can we know anything about the density of the mixture compared with the density of the pure substances? |  |
|  | The mixture will have an intermediate density between the two liquids. |
| The density of a metal rod is $9.2 \mathrm{~g} / \mathrm{mL}$. What happens to the density if the rod is cut in half? |  |
|  | It doesn't change. It is an intensive property. |

