Conversions Module Mastery Problem Answers

**Mastery Problem 1**
Using dimensional analysis, solve the following:

A bottle of medication contains 120 gtts. How many drams would that be?

a. 1 dr
b. 2 dr
c. 3 dr
d. 4 dr

\[
\frac{120 \text{ gtt}}{1} \times \frac{1 \text{ dr}}{60 \text{ gtt}} = \frac{120 \times 1 \text{ dr}}{1 \times 60} = \frac{120 \text{ dr}}{60} = 2 \text{ dr}
\]

**Mastery Problem 2**
Using dimensional analysis, solve the following:

The imprint on a prescription tablet says grains X. How many milligrams is that?

a. 0.65 mg
b. 65 mg
c. 650 mg
d. 6500 mg

\[
\frac{10 \text{ grains}}{1} \times \frac{65 \text{ mg}}{1 \text{ grain}} = \frac{60 \times 65 \text{ mg}}{1 \times 1} = \frac{650 \text{ mg}}{1} = 650 \text{ mg}
\]

**Mastery Problem 3**
Using dimensional analysis, solve the following:

A medication bottle is filled to the 125 mL mark. How many ounces is this?

a. 0.25 floz
b. 4.16 floz
c. 25 floz
d. 0.42 floz

\[
\frac{125 \text{ mL}}{1} \times \frac{1 \text{ floz}}{30 \text{ mL}} = \frac{125 \times 1 \text{ floz}}{1 \times 30} = \frac{125 \text{ floz}}{30} = 4.16 \text{ floz}
\]

**Mastery Problem 4**
Using dimensional analysis, solve the following:

The instructions read, take 4 dram of medication. How many tablespoons is this?
a. 0.1 tbsp  
b. 4 tbsp  
c. 24 tbsp  
d. 1 tbsp

\[
\frac{4dr}{1} \times \frac{2Tbsp}{8dr} = \frac{4 \times 2Tbsp}{1 \times 8} = \frac{8Tbsp}{8} = 1Tbsp
\]

**Mastery Problem 5**  
Using dimensional analysis, solve the following:

You have measured out 1.5 grams. How many grains is this?  
a. 0.1 grains  
b. 22.5 grains  
c. 10 grains  
d. 1 grain

\[
\frac{1.5g}{1} \times \frac{15grains}{1g} = \frac{1.5 \times 15grains}{1 \times 1} = \frac{22.5grains}{1} = 22.5grains
\]

**Mastery Problem 6**  
Using dimensional analysis, solve the following:

How many milliliters are in 3.5 pints?  
a. 1680 mL  
b. 137 mL  
c. 0.001 mL  
d. 3360 mL

\[
\frac{3.5pt}{1} \times \frac{480mL}{1 pint} = \frac{3.5 \times 480mL}{1 \times 1} = \frac{1680mL}{1} = 1680mL
\]

**Mastery Problem 7**  
Using dimensional analysis, solve the following:

A recipe calls for 6 cups. How many ounces is this?  
a. 1.33 oz  
b. 48 oz  
c. 0.75 oz  
d. 24 oz
Mastery Problem 8
Using dimensional analysis, solve the following:

The instructions read to administer 45 grains. How many milligrams is this?
   a. 0.69 mg
   b. 1.44 mg
   c. 4500 mg
   d. 2925 mg

\[
\frac{45 \text{ grains}}{1} \times \frac{65 \text{ mg}}{1 \text{ grain}} = \frac{45 \times 65 \text{ mg}}{1 \times 1} = \frac{2925 \text{ mg}}{1} = 2925 \text{ mg}
\]

Mastery Problem 9
Using dimensional analysis, solve the following:

The directions read to administer 60 milliliters. How many teaspoons will that be?
   a. 12 tsp
   b. 0.08 tsp
   c. 4 tsp
   d. 0.07 tsp

\[
\frac{60 \text{ mL}}{1} \times \frac{1 \text{ tsp}}{5 \text{ mL}} = \frac{60 \times 1 \text{ tsp}}{1 \times 5} = \frac{60 \text{ tsp}}{5} = 12 \text{ tsp}
\]

Mastery Problem 10
Using dimensional analysis, solve the following:

A patient weighs 210 lbs. How many kilograms is this?
   a. 462 kg
   b. 0.01 kg
   c. 125 kg
   d. 95.45 kg

\[
\frac{210 \text{ lbs}}{1} \times \frac{1 \text{ kg}}{2.2 \text{ lbs}} = \frac{210 \times 1 \text{ kg}}{1 \times 2.2} = \frac{210 \text{ kg}}{2.2} = 95.45 \text{ kg}
\]