

## Culinary Math Exercise 1

### Convert units to fractions

#### Convert smaller units into fractions of a larger unit

*Example: 4 cups = \_\_\_\_\_ gallon*

*How many cups in a gallon? 16, so multiply 4 by 1/16.*

$$4 \text{ c.} = \frac{4}{16} \text{ gal.} = \frac{1}{4} \text{ gal.}$$

$$2 \text{ cups} = \frac{1}{8} \text{ gallon}$$

$$3 \text{ cups} = \frac{3}{4} \text{ quart}$$

$$4 \text{ fluid ounces} = \frac{1}{2} \text{ cup}$$

$$6 \text{ ounces} = \frac{6}{16} \text{ pound}$$

$$2 \text{ teaspoons} = \frac{2}{3} \text{ tablespoon}$$

$$4 \text{ tablespoons} = \frac{1}{8} \text{ pint}$$

#### Convert smaller units into mixed fractions of a larger unit

*Example: 22 tablespoons = \_\_\_\_\_ cups*

*How many tbsp. in a cup? 16, so multiply 22 by 1/16.*

$$22 \text{ tbsp.} = \frac{22}{16} \text{ c.} = 1 \frac{6}{16} \text{ c.} \text{ (NOTE THAT YOU CAN'T MEASURE 1 6/16 CUPS!)}$$

*so you need to express this in cups and tablespoons*

$$22 \text{ tbsp.} = \frac{22}{16} \text{ c.} = 1 \frac{6}{16} \text{ c.} = 1 \text{ c. } 6 \text{ tbsp.}$$

$$3 \text{ c.} = \frac{3}{4} \text{ pt.} = 2 \text{ pt. } 1 \text{ c.}$$

$$14 \text{ fl. oz.} = 1 \frac{3}{4} \text{ c.} = 0 \text{ pt. } 14 \text{ fl. oz.} \text{ (there was an error here, meant}$$

to say cups and ounces: should be 1 cup 6 ounces)

$$18 \text{ oz.} = 1 \frac{1}{8} \text{ lb.} = 1 \text{ lb. } 2 \text{ oz.}$$

$$9 \text{ c.} = 2 \frac{1}{4} \text{ qt.} = 2 \text{ qt. } 1 \text{ c.}$$

$$34 \text{ c.} = 2 \frac{1}{8} \text{ gal.} = 2 \text{ gal. } 2 \text{ c.}$$

$$4 \text{ tsp.} = 1 \frac{1}{3} \text{ tbsp.} = 1 \text{ tbsp. } 1 \text{ tsp.}$$

### Conversion: Multiply and convert to usable measure

*Example: A recipe calls for 4 teaspoons baking powder, you need to make 8 times the recipe.*

*a. multiply 4 tsp.  $\times$  8 = 32 tsp. BUT YOU DON'T WANT TO MEASURE SO MANY TEASPOONS! SO WHAT'S THE NEXT BIGGER UNIT? A TABLESPOON. HOW MANY TABLESPOONS EQUAL 32 TEASPOONS?*

*b. 32 tsp. =  $\frac{32}{3}$  tbsp. =  $10\frac{2}{3}$  tbsp. = 10 tbsp. 2 tsp.*

#### multiply

$$3 \text{ c.} \times 3 = \underline{3 \text{ c.}}$$

$$9 \text{ fl. oz.} \times 4 = \underline{36 \text{ fl. oz.}}$$

$$9 \text{ oz.} \times 3 = \underline{27 \text{ oz.}}$$

$$2 \text{ tsp.} \times 21 = \underline{42 \text{ tsp.}}$$

$$1/2 \text{ c.} \times 13 = \underline{6 \frac{1}{2} \text{ c.}}$$

$$2 \text{ pt.} \times 5 = \underline{10 \text{ pt.}}$$

#### convert to usable measure

$$= \underline{1 \text{ pt. } 1 \text{ c.}}$$

$$= \underline{1 \text{ qt. } \frac{1}{2} \text{ c.}}$$

$$= \underline{1 \text{ lb. } 11 \text{ oz.}}$$

$$= \underline{7 \text{ fl. oz.}}$$

$$= \underline{3 \text{ pt. } \frac{1}{2} \text{ c.}}$$

$$= \underline{1 \text{ gal. } 1 \text{ pt.}}$$