### Lesson 3 Practice Problems

1. A landscaping company is delivering crushed stone to a construction site. The table shows the total weight in pounds, $W$, of $n$ loads of crushed stone.
* Which equation could represent the total weight, in pounds, for $n$ loads of crushed stone?

|  |  |
| --- | --- |
| * number of loadsof crushed stone
 | * total weight in pounds
 |
| * 0
 | * 0
 |
| * 1
 | * 2,000
 |
| * 2
 | * 4,000
 |
| * 3
 | * 6,000
 |

* 1. $W=\frac{6,​000}{n}$
	2. $W=6,​000−2,​000n$
	3. $W=2,​000n$
	4. $W=n+2,​000$
1. Members of the band sold juice and popcorn at a college football game to raise money for an upcoming trip. The band raised $2,000. The amount raised is divided equally among the $m$ members of the band.
* Which equation represents the amount, $A$, each member receives?
	1. $A=\frac{m}{2,​000}$
	2. $A=\frac{2,​000}{m}$
	3. $A=2,​000m$
	4. $A=2,​000−m$
1. Tyler needs to complete this table for his consumer science class. He knows that 1 tablespoon contains 3 teaspoons and that 1 cup contains 16 tablespoons.

|  |  |  |
| --- | --- | --- |
| * number of teaspoons
 | * number of tablespoons
 | * number of cups
 |
| *
 | *
 | * 2
 |
| * 36
 | * 12
 | *
 |
| *
 | * 48
 | * 3
 |

* 1. Complete the missing values in the table.
	2. Write an equation that represents the number of teaspoons, $t$, contained in a cup, $C$.
1. The volume of dry goods, like apples or peaches, can be measured usings bushels, pecks, and quarts. A bushel contains 4 pecks, and a peck contains 8 quarts.
* What is the relationship between number of bushels, $b$, and the number of quarts, $q$? If you get stuck, try creating a table.
1. The data show the number of free throws attempted by a team in its first ten games.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| * 2
 | * 11
 | * 11
 | * 11
 | * 12
 | * 12
 | * 13
 | * 14
 |
| * 14
 | * 15
 |  |  |  |  |  |  |

*
* The median is 12 attempts and the mean is 11.5 attempts. After reviewing the data, it is determined that 2 should not be included, since that was an exhibition game rather than a regular game during the season.
	1. What happens to the median if 2 attempts is removed from the data set?
	2. What happens to the mean if 2 attempts is removed from the data set?
* (From Unit 1, Lesson 10.)
1. The standard deviation for a data set is 0. What can you conclude about the data?
* (From Unit 1, Lesson 12.)
1. Elena has $225 in her bank account. She takes out $20 each week for $w$ weeks. After $w$ weeks she has $d$ dollars left in her bank account.
* Write an equation that represents the amount of money left in her bank account after $w$ weeks.
* (From Unit 2, Lesson 2.)
1. Priya is hosting a poetry club meeting this week and plans to have fruit punch and cheese for the meeting. She is preparing 8 ounces of fruit punch per person and 2 ounces of cheese per person. Including herself, there are 12 people in the club.
* A package of cheese contains 16 ounces and costs $3.99. A one-gallon jug of fruit punch contains 128 ounces and costs $2.50. Let $p$ represent number of people in the club, $f$ represent the ounces of fruit punch, $c$ represent the ounces of cheese, and $b$ represent Priya's budget in dollars.
* Select **all** of the equations that could represent the quantities and constraints in this situation.
	1. $f=8⋅12$
	2. $c=2⋅3.99$
	3. $2⋅3.99+2.50=b$
	4. $2p=c$
	5. $8f+2c=b$
* (From Unit 2, Lesson 2.)
1. The density of an object can be found by taking its mass and dividing by its volume.
* Write an equation to represent the relationship between the three quantities (density, mass, and volume) in each situation. Let the density, $D$, be measured in grams/cubic centimeters (or g/cm3).
	1. The mass is 500 grams and the volume is 40 cubic centimeters.
	2. The mass is 125 grams and the volume is $v$ cubic centimeters.
	3. The volume is 1.4 cubic centimeters and the density is 80 grams per cubic centimeter.
	4. The mass is $m$ grams and the volume is $v$ cubic centimeters.
* (From Unit 2, Lesson 2.)



© CC BY 2019 by Illustrative Mathematics®