

STATION 1:

You are having some friends over for dinner and find a great recipe you would love to use. The recipe feeds 6 people.

3 lbs. Chicken

2 2/3 cups rice

1/4 cup broccoli

2/5 Tbs salt.

- a. As the week goes on, some of your friends have other plans and are not able to make dinner. On Saturday night, only 2 of your friends show up. So you only need to feed 3 people. How will each ingredient change? (show all work)

Chicken	Rice	Broccoli	Salt
$3 \cdot \frac{1}{2} = \frac{3}{2}$ $1\frac{1}{2} \text{ lbs}$	$2\frac{2}{3} = \frac{8}{3}$ $\frac{8}{3} \cdot \frac{1}{2} = \frac{8}{6} = \frac{4}{3}$ $1\frac{1}{3} \text{ cups}$	$\frac{1}{4} \cdot \frac{1}{2} = \frac{1}{8}$ $\frac{1}{8} \text{ cups}$	$\frac{2}{5} \cdot \frac{1}{2} = \frac{2}{10} = \frac{1}{5}$ $\frac{1}{5} \text{ Tbs}$

- b. A few weekends later you decide to have friends over again, this time 17 people show up. So now you need to feed 18 people. How will each ingredient change. (show all work)

Chicken	Rice	Broccoli	Salt
$3 \cdot 3 = 9$ $9 \text{ lbs}$	$\frac{8}{\cancel{3}} \cdot \cancel{3} = 8$ $8 \text{ cups}$	$\frac{1}{4} \cdot 3 = \frac{3}{4}$ $\frac{3}{4} \text{ cups}$	$\frac{2}{5} \cdot 3 = \frac{6}{5} = 1\frac{1}{5}$ $1\frac{1}{5} \text{ Tbs}$

STATION 2:

You are the coach of the Math Team and you are ordering shirts for your team. There are a few different options for the type of shirt design and the color. You take a survey from your mathletes about the color of the shirt they would prefer and get the following information. Now you must decide which type of shirt to provide

	Blue	Red	Green	White
Words Only	7	5	4	0
Picture Only	3	10	4	8
Number/Picture	6	3	0	1
Picture/Word	4	2	12	9

a. Create a matrix with the above information

$$\begin{bmatrix} 7 & 5 & 4 & 0 \\ 3 & 10 & 4 & 8 \\ 6 & 3 & 0 & 1 \\ 4 & 2 & 12 & 9 \end{bmatrix}$$

b. Each type of shirt costs a different amount as follows:

Words Only: \$3.25/shirt

Pictures Only: \$4.00/shirt

Numbers and Picture: \$5.50/ shirt

Pictures and Words: \$6.25/shirt

How much would it cost for each type of shirt for your team?

	B	R	G	W
W	\$22.75	\$16.25	\$13.00	\$0.00
P	\$12.00	\$40.00	\$16.00	\$32.00
#/P	\$33.00	\$16.50	\$0.00	\$5.50
P/W	\$25.00	\$12.50	\$75.00	\$56.25

STATION 3:

It is your sister's birthday party and you are in charge of ordering the food. You decide the best option is to order platters of sandwiches. Based on the number of families coming you think 3 pans should be enough (each pan has 12 sandwiches).

- a. How many sandwiches total do you have? 36 sandwiches
- b. The first family shows up and decides they want  $\frac{2}{3}$  of the first pan of sandwiches  $\frac{2}{3} \cdot 12 = \frac{24}{3} = 8$
- i. How many sandwiches did they eat? 8 sandwiches
- ii. How many total are leftover? 28 sandwiches  $36 - 8 = 28$
- c. The next family comes and eats  $\frac{1}{6}$  of the total amount of leftover sandwiches.  $\frac{1}{6} \cdot 28 = \frac{28}{6} = \frac{14}{3}$
- i. How many sandwiches did they eat?  $4\frac{2}{3}$
- ii. How many are leftover?  $23\frac{1}{3}$  sandwiches  $28 - \frac{14}{3} = \frac{84}{3} - \frac{14}{3} = \frac{70}{3}$
- d. The last family decides they will just take half of what is left.  $\frac{35}{70} \cdot \frac{1}{2} = \frac{35}{3}$
- i. How many sandwiches did they eat?  $11\frac{2}{3}$  sandwiches
- ii. How many are leftover?  $11\frac{2}{3}$  sandwiches
- e. Was there enough food? Explain. Yes because there were sandwiches leftover at the end
- a. Could you have ordered a pan less? Explain. No, there should be  $11\frac{2}{3}$  left over and you would have needed 12 full sandwiches to order 1 less pan.