

Group 1

Abdul Rafay

**Lane Tech Sports Prices**

**By Declan Cory, Lili Gillmor, Bradley McCarey and Abdul Rafay**

	Cleats	Dry-fit jersey	Sweatpants	Hoodie
Soccer	26	26	12	16
Lacrosse	18	18	16	14
Baseball	32	32	24	26
Football	36	36	30	12
Track	20	20	8	12

	Cleats	Dryfit Jersey	Sweatpants	Hoody
Walmart	\$20	\$10	\$11	\$14
Bass Pro	\$15	\$10	\$12	\$25
EA Sports	\$40	\$50	\$50	\$60
Athleta	\$30	\$15	\$20	\$12

- 1) The football department is out of clothes because Bradley M. accidentally put chocolate on all of them. Which store out of the 4 mentioned above is the cheapest for the football department?
- 2) Ms.DeLisle and the Track want to show off their wealth by purchasing the most expensive set of materials. Which one of my these would qualify as the most expensive?
- 3) The Mathletes have the same quantity of sports equipment they need as the soccer department. The Soccer department tells them that the cheapest deal for them is with Bass Pro. Is this true? Why or why not?
- 4) (Personal) Is quality more important or quantity when shopping for sports equipment?

Erin King, Gaudwin Timoteo, Julissa Ott, Favio Saabedra  
6th Period

GROUP 2

Part I: Congratulations! You have been hired to be the Chef for some people in the city of Chicago. You want to save on money because the money you don't spend is added to your paycheck. So you check out some different stores to see which store gives you the best deal. The prices from each store are in Table A, and the order from each person is in Table B.

Table A:

	Whole Foods	Target	Mariano's	Jewel
Pancake Mix	\$15.00	\$6.00	\$8.00	\$4.00
Frozen Pizza	\$7.00	\$5.00	\$4.00	\$2.00
Cornbread	\$5.00	\$3.00	\$1.00	\$0.50
Brownie Mix	\$10.00	\$7.00	\$6.00	\$4.00
IceCream	\$20.00	\$10.00	\$7.00	\$5.00
Natural Orange Juice	\$6.00	\$5.00	\$4.00	\$3.00
Hot Dogs	\$15.00	\$10.00	\$12.00	\$8.00

Table B:

	Pancake Mix	Frozen Pizza	Cornbread	Brownie Mix	IceCream	Natural Orange Juice	Hot Dogs
Gaudwin	1	10	2	0	2	1	5
Erin	2	5	2	5	5	6	3
Favio	2	4	4	2	5	10	5
Julissa	2	6	8	12	14	1	0

- (a) Calculate the product  $[B][A]$  (you may use your calculator). Record your results below. **Clearly label the row and column of the resultant matrix with its meaning in the context of the problem.**
- (b) What store provides Julissa with the **cheapest** option to order her groceries?
- (c) What store would Favio spend the **most** money for his groceries?

Garcia, Jose  
Galan, Ana  
Czochara, Gabriela  
Period 06  
H Pre-Calculus

Party's Here!

1. Congratulations! Your parents have taken the liberty of going on a nice long warm vacation to Morocco and left you to plan your younger sibling's birthday party this weekend! You then check out the prices for the items that you will need for the birthday party at various locations. The quantity of each item for each designated table at the party is already set up in Table A, and the prices from various providers are located in Table B.
2. You're very upset at your parents for leaving you to do all the work while they chill under the sun at extravagant Moroccan beaches. You then decide that as revenge, you will buy all the supplies from the most expensive store using your parent's visa card. Determine which store is the most expensive.
3. Uh oh! You realized that your crazy aunt Jeanine doesn't like sitting by all the flowers because she hates anything and all things beautiful. In order to satisfy your crazy aunt and her seven children, you must transfer all their utensils from Party Table #3 to Party Table #4 and determine the new total costs from various providers.
4. You've discussed the whole situation with your uncle Felipe whom owns a dollar store and who would happily sell all your necessary supplies for half the cost you would have purchased from Target. Determine the total cost of party supplies if you bought the items from "Felipe's Dollar Store + Bacon Hut".

Party Tables	Pairs of Utensils	Party Hats	Party Blowers	Party Balloons
Table #1	2	1	1	5
Table #2	9	6	5	4
Table #3	8	7	7	3
Table #4	6	3	3	5
Table #5	10	9	8	7
Table #6	3	3	2	3
Table #7	4	2	3	5
Table #8	9	8	6	3

GROUP 3  
Page 2

<b>Party Supplies</b>	<b>Target</b>	<b>Party City</b>	<b>Michael's</b>
Utensils	3.00	2.50	4.00
Party Hats	1.50	2.00	2.25
Party Blowers	1.00	1.25	.50
Party Balloons	3.50	3.00	4.50

Group 4

Roman, Rachel, Richard  
6th Period

**Scenario:** You and your friends are renting camera gear for one day for upcoming photoshoots. You all want to buy the cheapest gear possible so you can spend money on travel soon. You want to use either Canon, Nikon, or Sony equipment. The amount of gear each person needs is in Table A, and the prices per day of use for one unit is found in Table B

Table A

Cameras	Lenses	SD Cards	
3	5	3	Roman
2	3	4	Rachel
4	4	2	Richard
3	2	5	Ms. Deliste

Table B

Cameras	Lenses	SD Cards	
\$200	\$100	\$30	Canon
\$400	\$300	\$25	Nikon
\$800	\$500	\$50	Sony

**Questions:**

1. What brand should Roman buy to spend the least amount of money?
2. Which person is able to spend the least amount of money if they all rented from Nikon?
3. If Ms. Deliste decided she wanted 4 lenses instead, which store would be her cheapest option?

Group 5

### Matrix Multiplication Event Planning

Congratulations! You've just scored yourself a job as an event planner! You got three different phone calls today from different clients asking you to plan a wedding, a funeral, and a birthday party. Use these tables and answer the following questions to help you plan these events.

Table A: Quantity

	Flowers	Plates	Spoons	Streamers	Cups
Wedding	100	200	250	0	400
Funeral	50	100	150	0	200
Birthday	0	50	100	100	200

Table B: Cost

	Target	Walmart	Krogers
Flowers	9	5	7
Plates	4	2	5
Spoons	3	1	2
Streamers	2	2	3
Cups	5	3	4

A) Compute the product of Table A x Table B. Write in matrix form. Label the rows and columns.

B) Which store provides the cheapest items for a wedding? How much will it cost?

C) What is the most expensive store for each event? How much will each cost?

Names: Jackson Janes, Bradley Hills, Ricardo Delgado, and Jose Terrazas

You are a party planner and are currently planning parties for 10 different high profile clients which your parents forced you to do because they're really mean. Since you are a poor high school student, you must maximize your spendings. Each client needs a unique number of tablecloths, plates, and napkins. There is another company that is in charge of food and beverages. The quantity of each item that needs to be purchased is in Table #1.

The cost of each item from various stores is in Table #2. No pressure, but don't screw this up! Good luck!

	Tablecloths	Plates	Napkins
Republican National Convention	14	26	52
Democratic National Convention	15	37	48
Jackson's Sweet 16	12	32	56
Cubs World Series Championship Party	19	25	42
Sports Authority Memoriam Party	21	29	39
Gary Johnson's Secession Party	24	41	58
Alabama National Championship Celebration	21	34	40
Ms Delisle's "Welcome Home from Kenya or Wherever Else Exotic She's Going" Party	20	28	39
Dominick's Corporate Reunion Party	27	36	58
Cleveland Browns "First Win of the Season!" Bonanza	10	23	36

CVS	Target	Walgreens	Amazon	Party City	
\$3.00	\$4.00	\$8.00	\$2.00	\$5.00	tablecloths
\$5.00	\$8.00	\$4.00	\$7.00	\$6.00	plates
\$2.00	\$1.00	\$1.00	\$2.00	\$2.00	napkins

- 1) Compute the product of  $[A][B]$ . Write your answer in matrix form. Make sure to clearly label rows and columns of the resulting matrix.
- 2) Which is the cheapest option and how much does it cost? What combination of store and party gives this purchase price?
- 3) Which is the most expensive option and how much does it cost? What combination of store and party gives this purchase price?



Patrick Fejkiel, Conrad Espino, Daniel Coonley, Randy Martinez

**Burrito Bowl Matrix**

Chipotle is one of the best places to get a burrito bowl. Different locations of Chipotle need different quantities of ingredients to make their burrito bowls. The ingredients are chicken, steak, pork, rice, beans and avocado. The 3 current suppliers of ingredients are Jewel, Mariano's and Whole Foods, and each supplier charges different prices. You are the new ingredient manager of Chipotle and are in charge of the ordering the ingredients for the lowest possible prices.

A.

	Chicken (lbs)	Steak (lbs)	Pork (lbs)	Rice (Bags)	Beans (Cans)	Avocado
Branch 1	100	80	60	200	760	243
Branch 2	152	167	54	320	912	195
Branch 3	80	193	90	240	892	283

B

	Jewel	Mariano's	Whole Foods
Chicken	5	7	9
Steak	8	12	9
Pork	6	10	5
Rice	12	20	14
Beans	4	7	4
Avocado	2	3	4

1. Compute the product of AB. Clearly label the meaning of the rows and columns in the resulting matrix.

2. What store - Jewel, Mariano's, or Whole Foods - provides the best price? For which Branch?
3. Which store is the most expensive? For Which Branch?

**Scenario:** Bob owns an ice cream shop and is trying to total which size of ice cream has made him the most money after a week of sales. Bob is trying to compare the income that the different sizes brought for his business. The following matrix compares the size of the ice cream with the amount of cups sold during that week based on flavor. The prices for the sizes are also listed.

## Bob's Ice Cream Shop Week Total

(how many were sold)

	small	medium	large
Chocolate	169	133	105
vanilla	152	127	102
peanut butter	133	105	81
cookie dough	141	122	99
strawberry	107	100	82

	Price
Small	1.10
Medium	2.25
Large	3.15

**Problems:**

1. Most people tend to buy a Small because it is the cheapest option of all the ice creams. Bob wants to know if the Large made him more money that week than the Small size. How much money was made from Small in all flavors? Large? Then find which size generated more money for Bob's Ice Cream Shop.
2. Chocolate seems to be the most popular flavor of ice cream that Bob sells followed by Vanilla. How much money did Bob make from selling both Chocolate and Vanilla ice cream in all sizes during this week?
3. Bob can't afford to keep all the flavors at his shop after this week. Bob's favorite ice cream flavor is Peanut Butter, but he noticed that it's one of the least chosen flavors at his shop. Bob wants to know if he should keep the Peanut Butter flavor in all sizes over his least favorite flavor, strawberry, in all sizes. How much money was made that week for the flavor Peanut Butter? How much money was made that week for the flavor Strawberry? Should he drop the Peanut Butter flavor or the Strawberry flavor?

## Group 9

Four moms wanted to have a competition to see who is the better mom. They all decided that having a Christmas party is the best way to prove which mom is the best but they need help preparing. You are the accountant of the bank that all four moms got their credit cards from and want to see what exactly did they buy to charge their bill.

**Table A:**

	Chairs	Fancy champagne	Fold-up Tables	Fruitcakes	The socks that go on the chimneys
Sally	15	4	6	5	6
Lauren	16	0	3	3	5
Debra	12	2	5	4	3
Amy	10	6	8	6	4

**Table B:**

	Walgreens	Walmart	Target
Chairs	\$2	\$3	\$4
Fancy champagne	\$10	\$11	\$9
Fold-up tables	\$5	\$6	\$8
Fruitcakes	\$13	\$10	\$15
The socks that go on the chimneys	\$2	\$3	\$1

1. What is the product of  $[A][B]$ ? (Use your calculators). What do the rows and columns of the product represent?
2. Sally doesn't have enough time to travel to multiple stores, so she has to buy everything at one store. At which store will she spend the least money?
3. What is the most expensive price for the Christmas supplies, foods, and drinks? What combination of mom and store resulted this price?