IB Project: Who Has The Better Deal?

Wal-Mart vs. Oriental Trading

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8 Math, 3-A
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I am interested in doing a fundraiser that will benefit Calhoun Middle School Athletics Programs. The fundraiser that I am considering is in the form of a concession stand, which would provide spectators the option of purchasing goods during athletics competitions. One of the items that I am interested in selling at the concession stand is Hershey's Chocolate Candy. I have contacted several candy distributors however the two companies that I have decided to compare are Wal-Mart and The Oriental Trading Company. Listed below are the options and price point for each product that I am comparing from each company.

Option 1: Wal-Mart sells the Hershey's All Time Greats Candy Assortment, 95 count bags in-store for $8.98 per bag.

http://www.walmart.com/ip/Hershey-s-All-Time-Greats-Candy-Assortment-95-count/21288334

Option 2: Oriental Trading sells the Hershey's All Time Greats Candy Assortment, 100 count bags for $14.99 each plus an additional charge of $6.99 for shipping and handling.

http://www.orientaltrading.com/hersheys-all-time-greats-mix-a2-_K883-18-0.fltr

I will be investigating which company has the more economical offer for the Hershey's All Time Greats Candy Assortment Bags.

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Wal-Mart vs. Oriental Trading - Tabular Representations

Number of Bags	Process Column (Wal-Mart)	Cost at (Wal-Mart)	Process Column (Oriental Trading)	Cost at (Oriental Trading)
0	8.98(0)	0	6.99 + 14.99(0)	6.99
1	8.98(1)	8.98	6.99 + 14.99(1)	21.98
2	8.98(2)	17.96	6.99 + 14.99(2)	36.97
3	8.98(3)	26.94	6.99 + 14.99(3)	51.96
4	8.98(4)	35.92	6.99 + 14.99(4)	66.95
5	8.98(5)	44.90	6.99 + 14.99(5)	81.94
6	8.98(6)	53.88	6.99 + 14.99(6)	96.93
7	8.98(7)	62.86	6.99 + 14.99(7)	111.92
8	8.98(8)	71.84	6.99 + 14.99(8)	126.91
9	8.98(9)	80.82	6.99 + 14.99(9)	141.90
10	8.98(10)	89.80	6.99 + 14.99(10)	156.89
x	8.98(x)	y	6.99 + 14.99(x)	y

The functions rules that I used to find the cost per bag of the Hershey's All Time Greats Candy Assortment Bags for each company is listed below:

Option 1: Wal-Mart sells the Hershey's All Time Greats Candy Assortment, 95 count bags in-store for $8.98 per bag. The functions rule that I used to find the total cost, y, for each bag of candy was; $y = 8.98x$, where x represents the number of bags purchased.

Option 2: Oriental Trading sells the Hershey's All Time Greats Candy Assortment, 100 count bags for $14.99 each plus an additional charge of $6.99 for shipping and handling. The functions rule that I used to find the total cost, y, for each bag of candy was; $y = 6.99 + 14.99x$, where x represents the number of bags purchased.

According to the tabular representation for any number of bags purchased, Wal-Mart would be the more economical option, although you are getting more pieces per bag when purchasing from Oriential Trading (additional 5 pieces).

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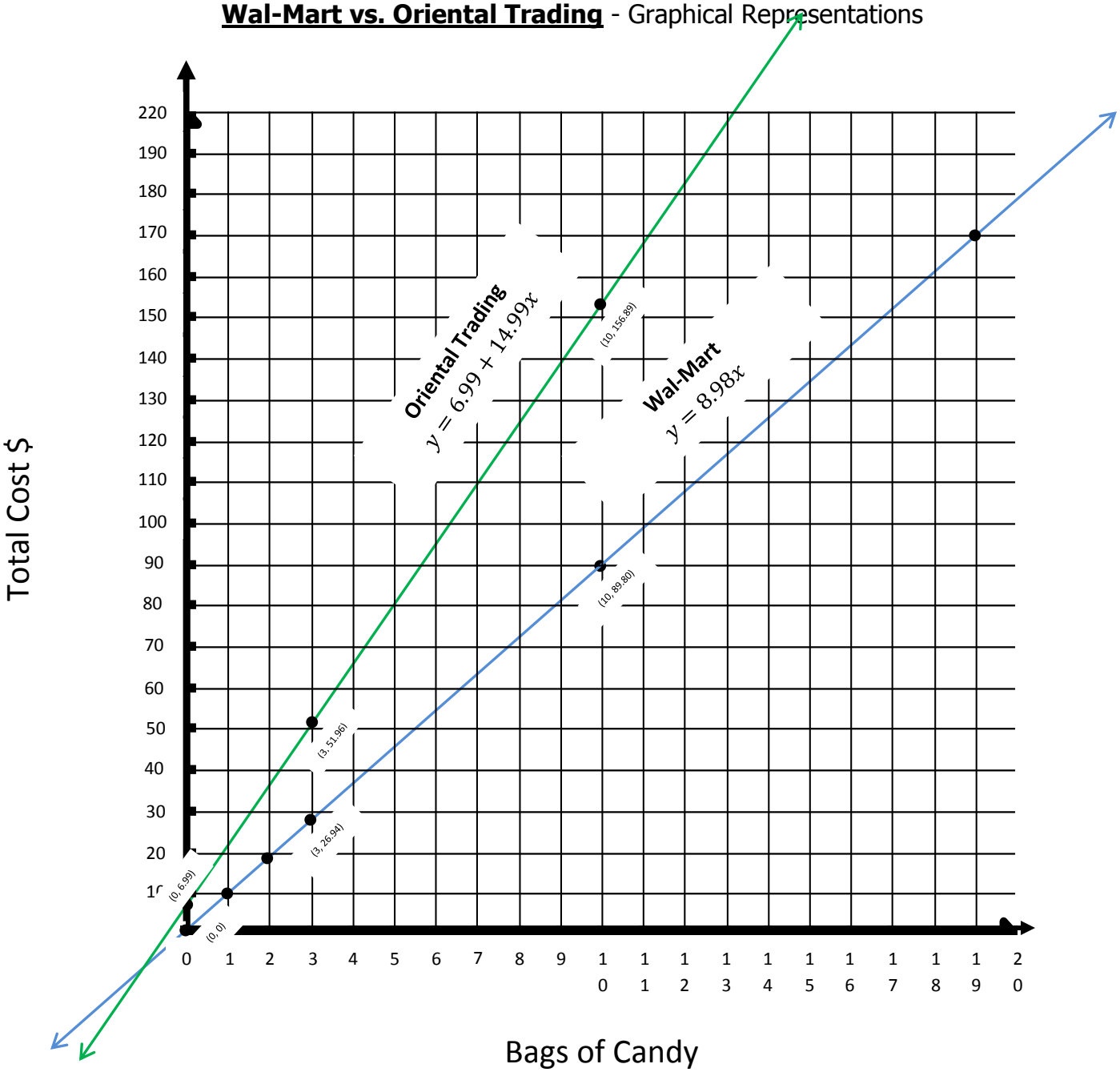
Wal-Mart vs. Oriental Trading - Graphical Representations



The graphical representation for Wal-Mart and Oriental Trading are shown above. The Wal-Mart graph represents a proportional relationship, because it passes through the origin. The Oriental Trading company does not represent a proportional situation because the graph of the line does not pass through the origin. The y-intercept for the Oriental Trading Company is (0, 6.99).

Wal-Mart's graphical representation is less steep than the Oriental Trading, therefore is would be more economical to purchase the Hershey's All Time Greats Candy Assortment bag from Wal-Mart.

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Wal-Mart vs. Oriental Trading - Mathematical Summary

I was interested in doing a fundraiser that would benefit Calhoun Middle School Athletics Programs. The fundraiser that I am considering is a concession stand that would provide spectators the option of purchasing goods during athletics competitions. One of the items that would be sold at the concessions stand would be the Hershey's All Time Greats Candy Assortment pieces.

The two companies that I researched to determine which has the better deal were Wal-Mart and Oriental Trading. Wal-Mart offers the Hershey's All Time Greats Candy Assortment Bags, 95 count in-store for $8.98 per bag. Oriental Trading offers the Hershey's All Time Greats Candy Assortment, 100 count bags for $14.99 each plus an additional charge of $6.99 for shipping and handling.

The function rule that I used to calculate the table of values for Wal-Mart is$y = 8.98x$. Where y, represents the total cost and x, represents the number of bags purchased. The ratios that were created

$\frac{8.98}{1}, \frac{17.96}{2}, \frac{26.94}{3}, \frac{35.92}{4}, \frac{44.90}{5}, \frac{53.88}{6}, \frac{62.86}{7}, \frac{71.84}{8}, \frac{80.82}{9}, and\ \frac{89.80}{10}$ are equivalent ratios of the form, $\frac{y}{x}$; when simplified results in a constant rate of $\frac{8.99}{1}$. To create the graph, I used the ratios as coordinate points and graph each set of values. The Wal-Mart graph is linear and resulted in a proportional relationship, because the line passed through the origin.

The function rule that I used to calculate the table of values for Oriental Trading is$y = 6.99 + 14.99x$. Where y, represents the total cost and x, represents the number of bags purchased. The ratios that were created

$\frac{6.99}{0}, \frac{21.98}{1}, \frac{36.97}{2}, \frac{51.96}{3}, \frac{66.95}{4}, \frac{81.94}{5}, \frac{96.93}{6}, \frac{111.92}{7}, \frac{126.91}{8}, \frac{141.90}{9}, \frac{156.89}{10}$ are not equivalent ratios. To create the graph, I used the ratios as coordinate points and graph each set of values. The Oriental Trading graph is linear, but does not result in a proportional relationship. The y-intercept is (0, 6.99), which means that there was an additional cost for shipping the product of $6.99.

According to my investigation it would be more economical to purchase the Hershey's All Time Greats Candy Assortment from Wal-Mart. Although you would get 5 more pieces per bag, if you purchased it from Oriental Trading.

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Works Cited

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