How this project will be graded(rubric):

	Data and Sources	Systems of Equations	Graphic Solution	Algebraic Solution and explanation	Advertisement
Criteria	-data included (2 pts) -sources documented (2pts)	- all variables are defined (2 pts) - both equations are accurate (6 pts)	- each line correctly graphed (4 pts) - labels and title (2 pts) - point of intersection (2 pts)	- correct solving (4 pts) - explain your work and how you came up with the parameters and pricing for your new company (7 pts) -check (2 pts)	- creativity (4 pts) - contains the results of your research and equations (4 pts) - final product presents information in a clear manner (6 pts) - demonstrate your company is the best (3 pts) - professional product (5 pts)
Points Earned	4/4	8/8	8/8	13/13	22/22

Total: 54/55

Well Done!

Algebra II
Mr. Haupt

Underneath are our charts for our two companies. Snap fitness is a real company located in Simi Valley, California. They do not have a start up rate but do have an expensive monthly rate.

The other company is Dunbar's Dumbbells, and they are our fictitious company who has a large sign up fee but the monthly fee is purely maintenance making only $100 on each person who signed up front, eventually raking in more people to join.

Snap Fitness Membership Fee-
www.snapfitness.com/peachtreecity/memberships

Snap Fitness Gym Membership	
Initial Start Up Fee	$0 for a start up
Per Monthly Rate	$40 per month

Dunbar's Dumbbells

Dunbar's Dumbbells Gym Membership	
Initial Start Up Fee	$100 for a start up
Per Monthly Rate	$20 per month

System of Equations

The competitor we used to show the comparison was a gym called "Snap Fitness" and the reason we chose them was because we both assumed that the average person will join a gym for more than 6 months explaining the average consumer would rather pay a large up front fee then pay a much smaller monthly fee which is hindsight shows the consumer the money they will save.

Consider "Dunbar's Dumbbells" equation is:

$y=40+100x$ Typo? $y=100+20t$

Letting "X" be number of months and "Y" being total cost

Now, consider "Snap Fitness" equation to be:

$y=0+40x$

Letting "X" be number of months and "Y" being total cost

The only problem we are concerned about we would be facing is that some people may not be able to financially afford $100 up front and also for people who cannot see that further down the road of the membership you will be saving a large amount of money even only after the first year.

Algebraic Equation Solution & Explanation

Dunbar's Dumbbells
    Snap Fitness
Equation: $Y=20X+100$
$Y=40X$

                                                 Equation:

Setting the two equations equal to each other:
$40X=20X+100$
$20X=100$
$X=5$

Plugging X back into the equation
$Y=40(5)$
$Y=200$

Checking our work
$200=20(5)+100$
$200=100+100$
$200=200$

[handwritten: other half of check? y=40x]

First I submitted 40x in for y. Then we solved for x. Next I put the x-value in one of the equations and solved for y. Last we put then x&y values in the equation to check my work.
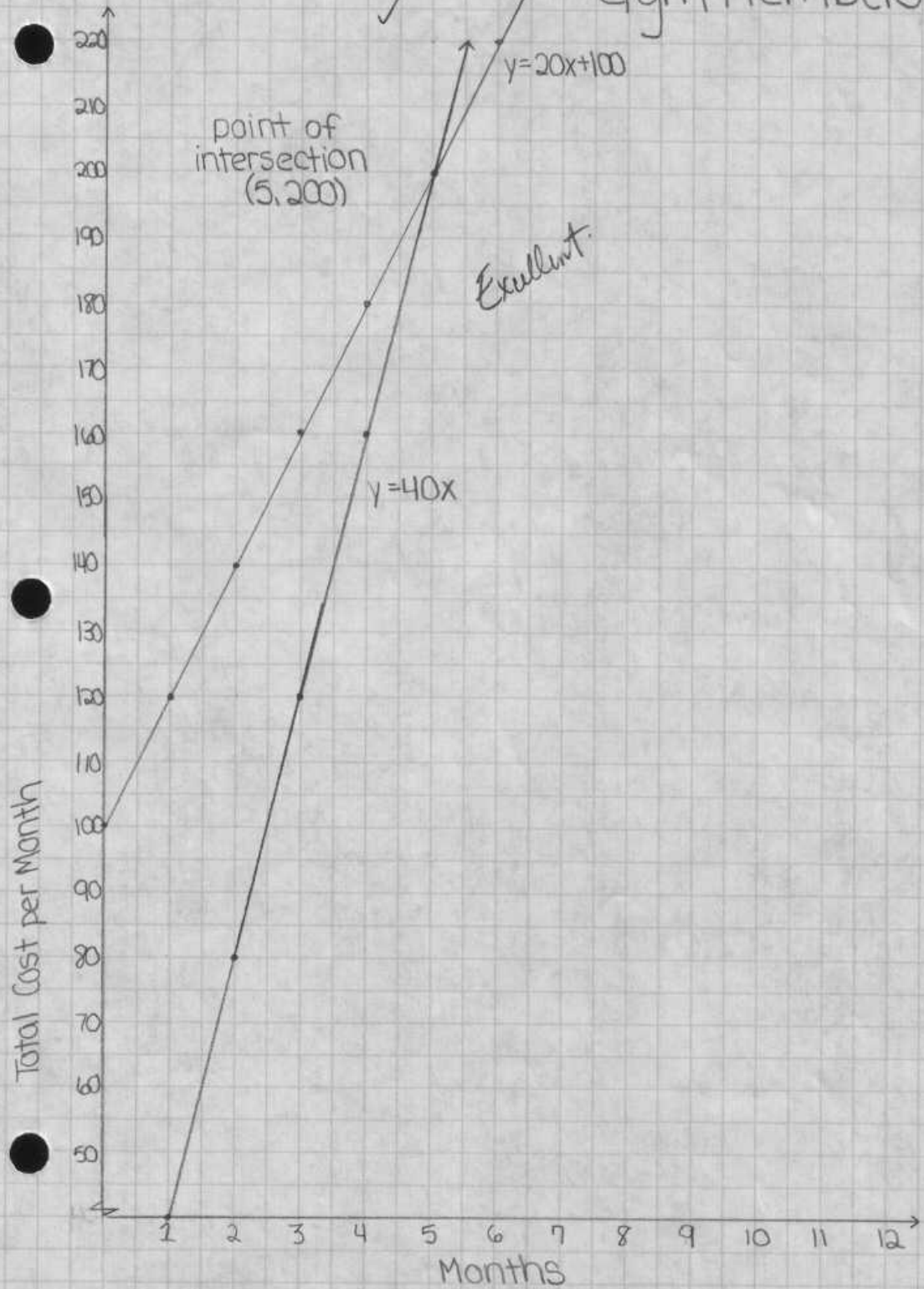
$Y=20x+100$ and $y=40x$ intersect at (5,200)

Y=total cost
X=months

      We figured that even though our company has a larger start up cost it would initially be more expensive but per month our cost in much cheaper than the 24 hour fitness club this being more successful assuming most customers don't join a gym for 2 months instead at only 6 months time. Dunbar's Dumbbells proves to be less expensive saving already $20, and in such a tight economic struggle in this world $20 can start to add up.

[handwritten: good]

[handwritten: Bit of a run-on sentence, but I get it. :)]

Gym Memberships

$y=20x+100$

point of intersection (5, 200)

Excellent.

$y=40x$

Total Cost per Month

Months

Citations:

Only, By Appointment. "Peachtree City Snap Fitness Center – 24 Hour
Gym & Health Club – 2512 Redwine Road, Peachtree City, GA." *Snap
Fitness - 24 Hour Gym - Health & Fitness Club Franchise
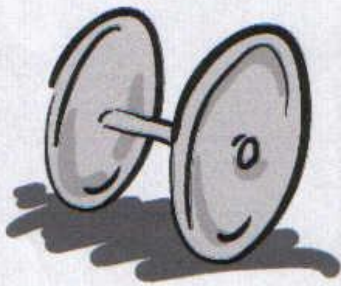Opportunities*. 10 July 2005. Web. 25 Oct. 2010.
<http://www.snapfitness.com/peachtreecity>.

Billig, Anthony A. "Gym Memberships: Choosing the Right Gym For
You." *How To Gain Weight and Build Muscle Fast*. 14 Jan. 2009. Web.
25 Oct. 2010. <http://www.gain-weight-muscle-fast.com/gym-
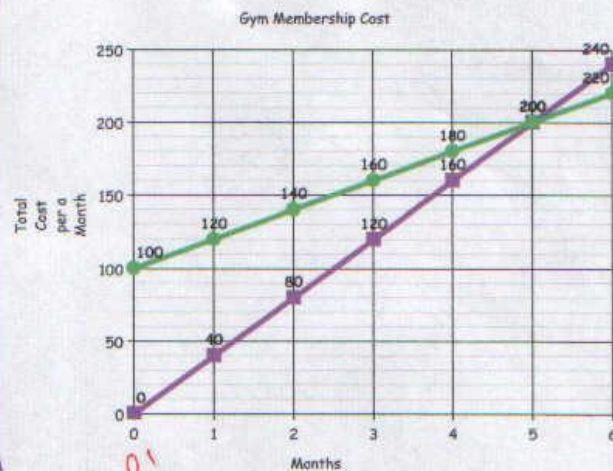memberships.html>.

Dunbar's Dumbbells

After six months, we have the cheaper price. Snap fitness can't even compete with our rate!

Membership Fee
We require a $100 registration fee and then after that it is only $20 per a month.

Purple- Snap Fitness
Green- Dunbar's Dumbbells

Gym Membership Cost

Total Cost per a Month

250
200
150
100
50
0

100
120
140
160
180
200
240
220
40
80
120
160

0   1   2   3   4   5   6
Months

(cool!)

Dunbar's Dumbbells
$Y=20x+100$
Snap Fitness
$Y=40x$

(handwritten notes) Purple won't understand the gym. Try comp... cost of mem... slip for year. Show sav...

(handwritten notes) — Like the professional look!