

Choosing a Phone Plan - Algebra Project

You have decided to try to convince your parents to let you get your own cell phone or a different plan if you already have one. While investigating rates you find locate the following website to help you compare plans: <http://www.myrateplan.com>. Choose “start with a rate plan (single)”. Then locate one rate plan per company. The cost should be different for each plan, as should the amount of minutes per plan. **No plan should be completely identical to any other plan.**

<u>Company/Plan</u>	<u>Rate</u>	<u>Monthly Fee</u>	<u>Data Plan cost</u>
Minutes purchased in ()	(per extra minute)		(texting, pictures, internet, etc.)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

You will need to complete the following to accomplish the project:

1. An equation chart (provided) of the plans in slope-intercept form $y = m(x) + b$ where $m =$ rate per extra minute and $b =$ monthly fee plus texting if desired.
($x =$ total minutes used, $y =$ total cost)
Note: Your cost increases only after you have used your purchased minutes!!!
How do you write that into an equation????
2. A table of specific values (provided) and 3 additional values of your choice.
3. A graph of each equation using any of the methods discussed in class, with a range of at least 0 to 2000 **total minutes** for x and 0 to whatever your **total cost** may be for y . All graphs should be on the same coordinate axis so possible intersections can be located. **(x WILL REPRESENT THE TOTAL MINUTES TALKED IN YOUR GRAPH.)**
 Note: Your line will be **horizontal** until you have passed the number of minutes in your plan. It will then start to use the rate of change (slope).
4. Label the lines with the company name. Use color to differentiate.
5. Approximate the intersection of each pair of lines (if they intersect) by labeling the ordered pair on the graph. Make sure to extend your lines far enough so they will intersect if possible. If they would not intersect note them to be parallel.
6. A maximum one-page paper containing the following paragraphs:
 - a) Discuss the skills that needed to be used (graphs, tables, intersections, equations) to successfully complete the project. Use algebraic vocabulary.
 - b) Discuss the most difficult portion of the project and at least two reasons why
 - c) The identity of the company/plan you would choose and at least 2 reasons for picking this company over others.

EQUATION SHEET FOR ALGEBRA PHONE PLAN PROJECT

Be careful!!! **DO NOT distribute and simplify.** Doing this gives you inaccurate values for the slope and y-intercept.

<u>Company Name (minutes)</u> <u>y-intercept</u>	<u>Equation</u>	<u>slope</u>
_____ _____	_____	_____
_____ _____	_____	_____
_____ _____	_____	_____
_____ _____	_____	_____

Phone Plan Table of Values

Complete each table for the values given. Add values for each table which would be helpful in order to graph appropriately. These may be between or larger than the values given.

Verizon _____

# total minutes	0	200	400	600	800	1000	2000			
cost										

AT&T _____

# total minutes	0	200	400	600	800	1000	2000			
Cost										

Sprint _____

# total minutes	0	200	400	600	800	1000	2000			
Cost										

T-Mobile _____

# total minutes	0	200	400	600	800	1000	2000			
Cost										

Approximate Intersections:

Verizon/A.T.& T. _____ Verizon/Sprint _____ Verizon/T-Mobile _____

AT&T/Sprint _____ AT&T/T-Mobile _____ Sprint/T-Mobile _____

Names _____

Scoring Rubric for Algebra Cell Phone Project

Equations:

Company information accurate	8	7	6	5	4	3	2	1	0
Correctly written (use slope intercept form and not distributed)	8	7	6	5	4	3	2	1	0

Tables/Graphs of Equations:

Table Values are correctly found (including 3 values of your own)

26	24	22	20	18	16	14	12	10	8	6	4	2	0
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Equation's points/slopes/intercepts are accurately graphed

16	14	12	10	8	6	4	2	0
----	----	----	----	---	---	---	---	---

Graphs are all on one coordinate axis and in color

3	0
---	---

Graphs are labeled with their company name

4	3	2	1	0
---	---	---	---	---

Appropriate scale is used for graphs

4	2	0
---	---	---

Axes are labeled

2	1	0
---	---	---

Choice of Plan Paper:

Key algebraic skills of the project are addressed

7	6	5	4	3	2	1	0
---	---	---	---	---	---	---	---

Most difficult task and includes at least 2 reason to support

4	3	2	1	0
---	---	---	---	---

Contains choice of plan and at least 2 reasons for the choice

4	3	2	1	0
---	---	---	---	---

Grammar of Paragraph

Complete sentences

4	3	2	1	0	(1 point off each fragment/run-on)
---	---	---	---	---	------------------------------------

Spelling

4	3	2	1	0	(1 point off for each misspelled word)
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Color used to enhance project

3	2	1	0
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Title page appropriate

3	2	1	0
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Total Points = _____/100

Grade _____