**Senior Math Applications** Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*HW - Cell Phone Applications* #1 Hr\_\_\_\_\_\_\_\_\_\_\_\_\_

Use the given scenario for #1-8: You go to Verizon and sign up for a new cell phone plan. The contract states that there is a monthly charge of $50 and the plan gives you 600 minutes. Verizon charges you $0.13 per minute used after the first 600.

1. How much would your monthly bill be if you use 349 minutes?

2. How much would the monthly bill be if you use 600 minutes?

3. How much would the monthly bill be if you use 920 minutes?

4. Write a piecewise rule for the cost of the cell phone plan (Be sure to state the domain).

5. If you monthly bill is $94.33 how many minutes did you use?

6. If your monthly bill is $40 what do you know about the # of minutes you used for that month?

|  |  |
| --- | --- |
| x | y |
| 0 |  |
| 200 |  |
| 400 |  |
| 600 |  |
| 800 |  |
| 1000 |  |
| 1200 |  |

7. Fill in the table below. 8. Graph the function below (You can create a break on your y-axis)

Use the given scenario for #9-13: You get a job as a manager at Comcast. One of you duties is to examine Comcast’s cellular service plan. After doing some research you find out that it costs $0.14 for **every** minute used. You can’t find any statement about the monthly fee. However you found last month’s bill for one phone which shows a total charge of $59.60 with 340 minutes used.

9. What is the monthly fee for the cell phone plan? Explain how you found the answer.

10. Write an algebraic rule that can be used to calculate the monthly payment for one phone.

11. Fill in the table below. 12. Graph the function below.

|  |  |
| --- | --- |
| x | y |
| 0 |  |
| 50 |  |
| 100 |  |
| 150 |  |
| 200 |  |
| 250 |  |
| 300 |  |

13. You decide to give each Comcast worker a cell phone with a $75 allowance. How many minutes are they allowed to use each month?

Use the given scenario for #14-15: Your friend is worried about how much money it will cost her for her cell phone minutes. She knows that her cell phone plan charges a monthly fee and then a cost for **every** minute used. She knows that her monthly fee is $10 and that she paid $82.32 for 452 minutes during the previous month.

14. Help your friend figure out how much her cell phone plan charges for every minute used.

15. Your friend is debating if she should switch to a plan that has a higher monthly fee, but offers a certain number of minutes free. She finds a plan that charges a monthly fee of $35 and a charge of $0.10 per minute for minutes after the first 350. If you friend uses about 525 minutes per month should she switch plans? Why?