**Multiple Choice 2 points each. You must show work/explain EVERY question on the Weekly.**

1.) A cell phone company charges $60.00 a month for up to 1 gigabyte of data. The cost of additional data is $0.05 per megabyte. If *d* represents the number of additional megabytes used and *c* represents the total charges at the end of the month, which linear equation can be used to determine a user's monthly bill?

|  |  |  |  |
| --- | --- | --- | --- |
| 1) | $$c=60-0.05d$$ | 3) | $$c=0.05-60d$$ |
| 2) | $$c=60.05d$$ | 4) | $$c=60+0.05d$$ |

 1.)\_\_\_\_\_\_\_\_\_

2.) Which shows the correct simplification of $\sqrt{128}$ ? 2.) \_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| 1) | $$2\sqrt{64}$$ | 3) | $$2\sqrt{32}$$ |
| 2) | $$8\sqrt{2}$$ | 4) | $$2\sqrt{8}$$ |

3. ) The expression $\left(3^{0}\right)\left(4^{0}\right)(2^{3})$ is equal to 3.) \_\_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| 1) | 8 | 3) | $$1$$ |
| 2) | $$0$$ | 4) | $$13824$$ |

4.) The greatest common factor of $36xy^{3} and 24y^{2}$ is 4.) \_\_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| 1) | $$4xy$$ | 3) | $$12y^{2}$$ |
| 2) | $$12xy^{2}$$ | 4) | $$24y^{2}$$ |

5.) What $\left(2x^{2}+7x\right) $ subtracted from $\left(3x^{2}-1\right) $? 5.) \_\_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| 1) | $$5x^{2}-8x$$ | 3) | $$x^{2}-7x-1$$ |
| 2) | $$x^{2}+7x-1$$ | 4) | $$3x^{2}+2x^{2}-7x-1$$ |

S**hort Answer:**

 6.) Is $\left(x+2\right)(3x+1)$ equivalent to $3x^{2}+7x+2$ or $3x^{2}+2$ ? Explain your choice. **[2] points**

7.) In 1995, there were 85 rabbits in Central Park.  The population increased by 12% each year.  **[3] points**

a.) Write an equation to model this situation.

b.) How many rabbits were in Central Park in 2005?

 8.) Suppose you want to construct a movie theater in Webster. Rows closer to the screen have fewer seats than the rows farther away from the screen as shown below. **[5] points**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Row 3Row 2Row 1a. Assuming this pattern continues, fill out the table.

|  |  |
| --- | --- |
| **Row , R** | **Number of Seats, S** |
| **1** | **5** |
| **2** | **8** |
| **3** |  |
| **4** |  |
| **5** |  |
| **6** |  |
| **7** |  |
| **8** |  |

 | b. Write an equation to model the number of seats, S, in any row, R.c. Find the number of seats that are in the 21st row. d. In what row are there 77 seats?  |