Algebra II – Mrs. Tilus Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Unit 0 Review

**No Calculator is allowed on this review.**

1. Put a check mark in each box for which the number on the left of the chart belongs to the set across the top.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Integers** | **Digits** | **Rational Numbers** | **Irrational** **Numbers** | **Natural Numbers** | **Whole Numbers** | **Real Numbers** | **Imaginary****Numbers** |
| 5 |  |  |  |  |  |  |  |  |
| -2/3 |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

2. **Graph** each number **and** then **list** them in order from least to greatest.

 5, -3, , , 0,  2. least to greatest \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

3. Find the point 2/3 of the way from D to J. (Please state the letter or the number.)

A B C D E F G H I J K L M

 3. \_\_\_\_\_\_\_\_\_\_

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

4. a.) What is the reciprocal of 2y? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b.) What is the opposite of 12? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 c.) What symbol would make the following true? (12+9) + 8 \_\_\_\_\_\_\_ 12 + (9 + 8)

5. Simplify each expression.

1. (2x)(2y)(2z) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ b.) 2(xyz) = \_\_\_\_\_\_\_\_\_\_\_\_\_

6. Find the value of each expression.

 a.)│5 │ - │-2│ b.) 4 **∙** │-3│ c.) 5[x**∙**(-2)]

7. Identify the property used in each step.

 a) $\frac{1}{3}\left(1+3x\right)=\frac{1}{3}∙1+\frac{1}{3}∙(3x)$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 = $\frac{1}{3}∙1+(\frac{1}{3}∙3)∙x$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 = $\frac{1}{3}∙1+1∙x$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 =  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 b) 5 + 2(x + 1) = 5 + (2x + 2· 1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 = 5 + (2x + 2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 = 5 + (2 + 2x) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 = (5 + 2) + 2x \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 = 7 + 2x substitution

8. Simplify each expression.

 a.) 3 **∙** (8 + 4) **∙** 5 b.) 23 + 1

 22 – 1

 c.) 32 **-** 42 + 3(32 – 1) d.) $\frac{3}{4}∙\left|\frac{1-5^{2}}{2^{3}}\right|$

9. Evaluate the expression if x = 3, y = 4, and z = -2.

 a.) 2x2 + x – 2 b.) 

10. Simplify.

 a.) 5 – (2 – 9) – (4 – 11) b.) 4(3 – y) + 2(1 – y)

11. Simplify.

 a.)  b.) 4(x – y) – (x – y)

 c.)  d.) $\frac{3^{2}+4^{2}}{-5+10}$

13. Simplify

 a.) $\frac{35c^{2}+15c-5}{5}$ b.) $\frac{-24∙2÷6}{(-2)^{3}}$