Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_

Mr. Tallman Math 7-8A

**Lesson #8 – Properties of Real Numbers**

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|  | **Property** | **Examples** |
| 1 | **Commutative Property of Addition** |  |
| 2 | **Commutative Property of Multiplication** |  |
| 3 | **Associative Property of Addition** |  |
| 4 | **Associative Property of Multiplication** |  |
| 5 | **Distributive Property** |  |
| 6 | **Additive Identity Property** |  |
| 7 | **Multiplicative Identity Property** |  |
| 8 | **Additive Inverse Property** |  |
| 9 | **Zero Property**  |  |

**For Questions 1-9, write the property that is represented by the given equation.**

1) $3+\frac{1}{2}=\frac{1}{2}+3$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2) $0.5∙1.2=1.2∙0.5$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3) $13+\left(-13\right)=0$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4) $(\frac{2}{3}∙7)∙0.5=\frac{2}{3}∙(7∙0.5)$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5) $1.2∙0=0$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6) $4.2∙\left(6.8+1.7\right)=4.2∙6.8+4.2∙1.7$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7) $(9\frac{1}{6}+2\frac{1}{2})+7=9\frac{1}{6}+(2\frac{1}{2}+7)$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8) $5.7+0=5.7$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9) $7.56∙1=7.56$\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**For questions 10-13, complete each equation to make it a true statement.**

10) $\left(6.2+7.3\right)+9=6.2+(7.3+$\_\_\_\_\_\_\_\_\_\_)

11) $-15+$\_\_\_\_\_\_\_\_\_\_\_\_ = $-15$

12) $\frac{2}{3}+\frac{4}{5}=$\_\_\_\_\_\_\_\_\_\_\_\_$+\frac{2}{3}$

13) $1.5+$\_\_\_\_\_\_\_\_\_\_\_\_\_ = 0

**Questions 13-16: Multiple Choice**

13) Which illustrates the associative property?

|  |  |
| --- | --- |
|  A) $3.6∙0=0$ | B) $\left(5.2+2.8\right)+3=5.2+(2.8+3)$ |
|  C) 6.5 + 7.2 = 7.2 + 6.5 | D) (1.2 + 8.6) + 9 = 7 – (2.9 + 4.1) |

14) Which illustrates the **multiplicative identity property**?

|  |  |
| --- | --- |
|  A) $9\frac{1}{5}∙1=9\frac{1}{5}$ | B) $8.5+0=8.5$ |
|  C) $3.6∙0=0$ | D) $4\frac{8}{11}+\left(-4\frac{8}{11}\right)=0$ |

15) Which property is being illustrated by the equation $m\left(a+b\right)=ma+mb$ ?

|  |  |
| --- | --- |
|  A) Associative | B) Commutative |
|  C) Identity | D) Distributive |

16) Which property is being illustrated by the equation $\left(24∙9\right)∙0=0$ ?

|  |  |
| --- | --- |
|  A) Commutative Property of Multiplication | B) Associative Property of Multiplication |
|  C) Zero Property of Multiplication | D) Identity Property of Multiplication |

**Matching Column: Match the EXPRESSION with the correct PROPERTY.**

|  |  |
| --- | --- |
| 17) $a+b=b+a$ | * Zero Property of Multiplication
 |
| 18) $a∙0=0$ | * Additive Inverse Property
 |
| 19) $a\left(b+c\right)=ab+ac$ | * Commutative Property
 |
| 20) $a+\left(-a\right)=0$ | * Distributive Property
 |