

I. Number ClassificationReal Numbers – **R** – All numbers!Irrational Numbers – **I** – decimals that never end and have no patternRational Numbers – **Q** – all fractions; decimals that end or have a patternIntegers – **Z** – no decimals; can be positive or negativeWhole Numbers – **W** – 0 and all positive numbers that do not have a decimalNatural Numbers – **N** – counting numbers; all positive numbers that do not have a decimal

Directions: Name all sets of numbers to which each real number belongs.		
1. $-\frac{14}{2}$	2. $\sqrt{64}$	3. 0
4. π	5. $0.\overline{45}$	6. $\frac{3}{8}$

II. Properties of NumbersCommutative Property (Addition or Multiplication) – *order of values does not matter*Associative Property (Addition or Multiplication) – *grouping of values does not matter*Identity Property (Addition or Multiplication) – *stays the same*Inverse Property (Addition or Multiplication) – *using opposite/reciprocal to “cancel” a value*Zero Product Property – *multiplying by 0 always equals 0!*Distributive Property – *multiplying a value to an expression inside parentheses***Directions:** Identify the property shown below.

7. $4 + (x + y) = (4 + x) + y$ _____

8. $\frac{2}{5} \cdot \frac{5}{2} = 1$ _____

9. $8x^2 \cdot 1 = 8x^2$ _____

10. $10y + (-10y) = 0$ _____

11. $12a \cdot 0 = 0$ _____

12. $-5(x + 7) = -5x - 35$ _____

13. $5 \cdot 13 = 13 \cdot 5$ _____

14. $4m + 0 = 4m$ _____

15. $2 \cdot (z \cdot 3) = (2 \cdot z) \cdot 3$ _____

16. $9 + 11 = 11 + 9$ _____

III. Combining Like Terms

****Remember – you are only combining terms, not solving!****

17. $3a + 7 - 5a + 9$

18. $5m - 3y + 14 + 2m - 6y - 10$

19. $8 - 3(2x - 7)$

20. $-(d - 2) + 4(2d + 8)$

IV. Solving equations – Hands-on Method

21. $5 + 4x = 2x + 13$

22. $6x - 3x + 9 = 36$



$x =$ _____



$x =$ _____

V. Solving equations – using inverse operations

23. $\frac{x}{2} + 5 = -9$	24. $4m + 3m - m + 5 = 2m + 21$	25. $\frac{2x+4}{3} = 8$
26. $4(x+6) = 44$	27. $-5y + 3(2+y) = 4$	28. $2(x + 7) = 9x - 3x + 6$