Unit 1 Review: Number Theory

Name Key
Date _____ Block _____

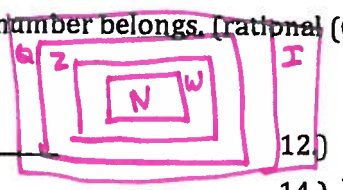
Name the property illustrated. Use the word bank to write the full name of the property. *Write the full name of the property or points will be deducted.*

Associative Property	Commutative Property
Additive Identity	Multiplicative Identity
Additive Inverse	Multiplicative Inverse
Zero Property	Distributive Property

1.) $5 \cdot (3 \cdot 4) = (5 \cdot 3) \cdot 4$ — associative
2.) $6 + 3 = 3 + 6$ — commutative
3.) $2(5x + 8) = (2 \cdot 5x) + (2 \cdot 8)$ — distributive
4.) $4 + 7 + (-4) = 7 + 0$ — additive inverse
5.) $12 \cdot 1 = 1 \cdot 12$ — commutative
6.) $18 \cdot 2 = 2 \cdot 18$ — commutative
7.) $6 \cdot \frac{1}{6} = 1$ — multiplicative inverse
8.) $(7)(0)(5) = 0$ — Prop 0
9.) $4x \cdot (3y \cdot 2) = (4x \cdot 3y) \cdot 2$ — associative
10.) $7 + (12 + 3) = (7 + 12) + 3$ — associative

Know how to **apply these properties.*

Name all of the subsets for which each number belongs. (rational (Q), integer (Z), whole (W), natural (N), irrational (I))



all are real!

11.) -14 — Z, Q
12.) 0 — W, Z, Q
13.) 0.56312... — I
14.) $\frac{4}{5}$ — Q
15.) 32 — N, W, Z, Q
16.) $\sqrt{5}$ — I
17.) $-\frac{1}{2}$ — Q
18.) π — I

Evaluate.

19.) $6^0 =$ 1
20.) $5^5 =$ 3125
21.) $10^{-4} =$ $\frac{1}{10000} = 0.0001$
22.) $10^{-1} =$ $\frac{1}{10} = 0.1$
23.) $\sqrt{64} =$ 8
24.) $\sqrt{196} =$ 14
25.) $\sqrt{400} =$ 20
26.) $\sqrt{25} =$ 5

Write the following in scientific notation or in standard form.

27.) $5 \times 10^2 =$ 500 — 5.0
28.) 1,230,000 = 1.23×10^6 — 1 2 3 0 0 0 0
29.) $1.2 \times 10^{-3} =$ 0.0012 — 1 2
30.) $3.75 \times 10^7 =$ 37,500,000 — 3.75
31.) 0.0000000042 = 4.2×10^{-9}
32.) 2,000,000,000 = 2.0×10^9