

Name _____

September 26, 2018

Alg1 Q1 Test 1

Test: Wednesday, 10/3/18

Due: 10/3/18

- 1) Give an example of a number that is natural, but not an integer. _____
- 2) Give an example of a number that is an integer, but not a whole number. _____
- 3) Give an example of a number that is a whole number, but not a natural number. _____
- 4) Give an example of a number that is a rational number, but not a natural number. _____
- 5) Give an example of a number that is rational, but not an integer. _____

Write all the sets each number belongs to:

- | | |
|-------------------------|-----------------------|
| 6) $-\frac{3}{4}$ _____ | 7) -8 _____ |
| 8) π _____ | 9) $\sqrt{121}$ _____ |
| 10) 0 _____ | 11) $\sqrt{5}$ _____ |

There will be no matching column on the test, but you must be able to identify each property and write a statement illustrating each property:

Complete the Matching Column (put the corresponding letter next to the number)

- | | |
|-------------------------------------------------------------------------|-------------------------------------|
| 12) If $11 + 4 = 15$, and $3 \cdot 5 = 15$, then $11 + 4 = 3 \cdot 5$ | a) Reflexive |
| 13) $2(14 - 3) = 2(14) - 2(3)$ | b) Additive Identity |
| 14) If $4 + 3 = 7$, then $7 = 4 + 3$ | c) Multiplicative identity |
| 15) $5 \cdot 0 = 0$ | d) Associative Property of Mult. |
| 16) $7 \cdot (9 \cdot 6) = (7 \cdot 9) \cdot 6$ | e) Transitive |
| 17) $12 \cdot 1 = 12$ | f) Associative Property of Addition |
| 18) $3 + (5 + 12) = (3 + 5) + 12$ | g) Symmetric |
| 19) $22 + 0 = 22$ | h) Commutative Property of Add. |
| 20) $15 + 4 = 15 + 4$ | I) Multiplicative property of Zero |
| 21) $15 + 4 = 4 + 15$ | j) Distributive |

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Simplify:

22) $(12x - 7) - (7x + 7)$

23) $(13x - 15) + (-7x - 4)$

24) $6(4x^2 - 12x - 10) + 12(-2x^2 + 6x + 5)$

25) $4(6x^2 + 12x - 10) - 7(4x^2 - 8x - 7)$

26) $6(6x^2 - 9x + 10) - 4(9x^2 - 14x - 15)$

27) $3(-12x^3 - 9x^2 + 6x - 15) - 9(4x^3 - 3x^2 - 2x - 5)$

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Multiplication and Division of Monomials:

29) $(4x^4y^{-3}z^6)^3$

30) $(2x^8y^{10}z^{-5})(5x^{-5}y^3z^2)^3$

31) $\frac{48x^7y^6z^8}{32x^5y^{-6}z^8}$

35) $(-4x^2yz^{-9})^2(2x^{-4}y^4z^6)^3$

36) $\frac{(15x^6y^{12}z^{-10})^2}{(-5x^7y^{-6}z^9)^4}$

37) $\frac{(4x^{15}y^{-5}z^{10})^3}{(2x^9y^{-3}z^6)^5}$

38) $4x(12x^2 - 15x - 9) - 12x(4x^2 - 5x + 3)$

39) $5y^2(5y^3 - 4y^2 + 8y - 7) - 6y(3y^3 + 6y^2 - 5y - 9)$

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Multiplying Polynomials

40) $(x + 11)(x - 5)$

41) $(x - 8)(x - 13)$

42) $(5x - 4)(3x + 7)$

43) $(x - 9)^2$

44) $(4x - 7)^2$

45) $(2x + 7)^2$

46) $(5x - 4)^2$

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47) $(6x - 1)^3$

48) $(9x + 4)^3$

49) $(3x^2 - 5x + 4)(7x^2 + x - 6)$

50) $(3x^2 + 4x - 10)(9x^2 - 5x - 6)$