

Name: _____
 College Algebra Mr. Schwartz

1. Identify the terms in the following expression:

$$5x^4y^6 - 9(x - y) - 7xz$$

Answer: _____

2. Identify the coefficients in the following expression:

$$-7x^3y^3 + 6(x - y) - 8xz$$

Answer: _____

3. Identify the coefficients in the following expression:

$$5\sqrt{z - 5x} - \frac{7}{6}y$$

Answer: _____

4. Identify the coefficients in the following expression:

$$-\frac{5x}{3yz} - 6x^5 - 6.4y$$

Answer: _____

5. Identify the terms in the following expression:

$$-\frac{3x}{8yz} - 2x^9 + 2.4y$$

Answer: _____

6. Identify the factors in the following expression:

$$-7x^8y^2$$

Answer: _____

7. Identify the factors in the following expression:

$$-5\sqrt{z - 6x}$$

Answer: _____

8. Evaluate the following expression for the given values of the variables: (Leave your answer in terms of π or use $\pi = 3.14$.)

$$3x^3 - 3\pi y - y^3 \text{ for } x = -1 \text{ and } y = -3$$

Answer: _____

9. Evaluate the following expression for the given values of the variables:

$$|x - 2y| + (3z - 4) \text{ for } x = -1, y = 4 \text{ and } z = 1$$

Answer: _____

10. Evaluate the following expression for the given values of the variables, expressing your answer in fraction form if needed.

$$\frac{x^2y^3}{-8z} + \frac{|xy|}{-8z} \text{ for } x = -2, y = -1 \text{ and } z = 5$$

Answer: _____

11. Evaluate the following expression for the given values of the variables:

$$-3\sqrt{x-2} + 2y^3 \text{ for } x = 38 \text{ and } y = -1$$

Answer: _____

12. Identify the property that justifies the following statement:

$$(-7 - 4)(-3^7) = (-3^7)(-7 - 4)$$

- | | |
|---|----------------------------|
| A) Commutative Property of Multiplication | F) Multiplicative Identity |
| B) Associative Property of Multiplication | G) Multiplicative Inverse |
| C) Commutative Property of Addition | H) Additive Inverse |
| D) Associative Property of Addition | I) Additive Identity |
| E) Distributive Property | |

13. Identify the property that justifies the following statement:

$$-5x - 6 = -6 - 5x$$

- | | |
|---|----------------------------|
| A) Commutative Property of Multiplication | F) Multiplicative Identity |
| B) Associative Property of Multiplication | G) Multiplicative Inverse |
| C) Commutative Property of Addition | H) Additive Inverse |
| D) Associative Property of Addition | I) Additive Identity |
| E) Distributive Property | |

14. Identify the property that justifies the following statement:

$$(x + 6) + 4y = x + (6 + 4y)$$

- | | |
|---|----------------------------|
| A) Commutative Property of Multiplication | F) Multiplicative Identity |
| B) Associative Property of Multiplication | G) Multiplicative Inverse |
| C) Commutative Property of Addition | H) Additive Inverse |
| D) Associative Property of Addition | I) Additive Identity |
| E) Distributive Property | |

15. Identify the property that justifies the following statement:

$$-3(-9x^5y^8z) = (-3)(-9)(x^5y^8z)$$

- | | |
|---|----------------------------|
| A) Commutative Property of Multiplication | F) Multiplicative Identity |
| B) Associative Property of Multiplication | G) Multiplicative Inverse |
| C) Commutative Property of Addition | H) Additive Inverse |
| D) Associative Property of Addition | I) Additive Identity |
| E) Distributive Property | |

16. Identify the property that justifies the following statement:

$$-6(3y - 7) = -18y + 42$$

- | | |
|---|----------------------------|
| A) Commutative Property of Multiplication | F) Multiplicative Identity |
| B) Associative Property of Multiplication | G) Multiplicative Inverse |
| C) Commutative Property of Addition | H) Additive Inverse |
| D) Associative Property of Addition | I) Additive Identity |
| E) Distributive Property | |

17. Identify the property that justifies the following statement:

$$\frac{-7}{3}x^4y + \left(\frac{7}{3}x^4y\right) = 0$$

- | | |
|---|----------------------------|
| A) Commutative Property of Multiplication | F) Multiplicative Identity |
| B) Associative Property of Multiplication | G) Multiplicative Inverse |
| C) Commutative Property of Addition | H) Additive Inverse |
| D) Associative Property of Addition | I) Additive Identity |
| E) Distributive Property | |

18. Identify the property that justifies the following statement:

$$(-2x + 3)\left(\frac{1}{-2x + 3}\right) = 1$$

- | | |
|---|----------------------------|
| A) Commutative Property of Multiplication | F) Multiplicative Identity |
| B) Associative Property of Multiplication | G) Multiplicative Inverse |
| C) Commutative Property of Addition | H) Additive Inverse |
| D) Associative Property of Addition | I) Additive Identity |
| E) Distributive Property | |

19. If the following statement is false, choose **False Statement**. Otherwise, identify the property that justifies it. If one of the cancellation properties is being used to transform the equation, identify the quantity that is added to or multiplied by both sides.

$$28x^4 = -56y^2z \Leftrightarrow 4x^4 = -8y^2z$$

A) Multiplicative Cancellation Property

(Quantity:

)

B) Additive Cancellation Property

C) Zero Factor Property

D) False Statement

20. If the following statement is false, choose **False Statement**. Otherwise, identify the property that justifies it. If one of the cancellation properties is being used to transform the equation, identify the quantity that is added to or multiplied by both sides.

$$4x + 11y^8 - z = 5y^8 - z \Leftrightarrow 4x + 6y^8 = 0$$

A) Multiplicative Cancellation Property

B) Additive Cancellation Property

(Quantity:

)

C) Zero Factor Property

D) False Statement

21. If the following statement is false, choose **False Statement**. Otherwise, identify the property that justifies it. If one of the cancellation properties is being used to transform the equation, identify the quantity that is added to or multiplied by both sides.

$$(-3 + 9x)(y - 2x) = 0 \Rightarrow (-3 + 9x) = 0 \text{ or } (y - 2x) = 0$$

A) Multiplicative Cancellation Property

B) Additive Cancellation Property

C) Zero Factor Property

D) False Statement

22. If the following statement is false, choose **False Statement**. Otherwise, identify the property that justifies it. If one of the cancellation properties is being used to transform the equation, identify the quantity that is added to or multiplied by both sides.

$$\frac{1}{7}x^8y = \frac{-1}{3}(y+z) \Leftrightarrow \frac{9}{2}x^8y = \frac{-1}{2}(y+z)$$

- A) Multiplicative Cancellation Property
 B) Additive Cancellation Property
 C) Zero Factor Property
 D) False Statement
23. Evaluate the following expression, expressing your answer in fraction form if needed. Be sure to use the correct order of operations.

$$4 - 2 \cdot -1 \div 5 + (-5)^3$$

Answer: _____

24. Evaluate the following expression, expressing your answer in terms of π . Be sure to use the correct order of operations.

$$-3^2 + 2 \cdot \sqrt{7+9} \cdot 2 - 6\pi$$

Answer: _____

25. Evaluate the following expression, expressing your answer in fraction form if needed. Be sure to use the correct order of operations.

$$5 \div 7 + 3\sqrt{3^2} - (3 \cdot 2)$$

Answer: _____

26. Evaluate the following expression, expressing your answer in fraction form if needed. Be sure to use the correct order of operations.

$$\frac{-2 - 3 \cdot 1 - 4}{-7(-3 - 1 \div (-9 + 7))}$$

Answer: _____

27. Simplify the following union and / or intersection of intervals:

$$(-10, -1] \cup [-9, 5)$$

Answer: _____

28. Simplify the following union and / or intersection of intervals:

$$[-16, -7] \cup (-7, \infty)$$

Answer: _____

29. Simplify the following union and / or intersection of intervals:

$$[-9, -2) \cap (-2, 10)$$

Answer: _____

30. Simplify the following union and / or intersection of intervals:

$$(14.6, 15.1) \cap \mathbb{Z}$$

Answer: _____

31. Simplify the following union and / or intersection of intervals:

$$(-10, -1] \cap [-9, 5)$$

Answer: _____

32. Simplify the following union and / or intersection of intervals:

$$(-\infty, -9] \cap [-9, 4)$$

Answer: _____

33. Simplify the following union and / or intersection of intervals:

$$(-5, 10) \cap [2, 7) \cap (1, 3]$$

Answer: _____

34. Simplify the following union and / or intersection of intervals:

$$\mathbb{R} \cup \mathbb{Q}$$

Answer: _____

35. Simplify the following union and / or intersection of intervals:

$$\mathbb{R} \cap \mathbb{Z}$$

Answer: _____