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Worksheet: _____ Date: _____

ANSWER SHEET

Instructions: Place your answers to all problems on this sheet. Attach your work for the problems on the back. If answer doesn't fit on the answer sheet and is on your solution paper, indicate that in the answer slot below by writing "on solution paper".

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Solve the problems on a separate sheet of paper. Also write your answers on the answer sheet.

Section 1.1 - Fractions

Identify the numbers as prime, composite or neither.

1. 1
2. 78

Write the number as a product of prime factors.

3. 420

Write the fraction in lowest terms.

4. $\frac{28}{336}$

Find the product and write it in the lowest terms.

5. $\frac{7}{3} \cdot \frac{6}{14}$
6. $4\frac{3}{8} \cdot 5\frac{3}{7}$

Find the quotient and write it in lowest terms.

7. $\frac{5}{4} \div \frac{15}{24}$

Find the sum and write it in lowest terms.

8. $6\frac{3}{5} + 5\frac{1}{2}$

Find the difference and write it in lowest terms.

9. $\frac{11}{12} - \frac{5}{12}$

Solve the word problem.

10. A cake recipe calls for $1\frac{2}{3}$ cups of sugar. A caterer has 20 cups of sugar on hand. How many cakes can she make?

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Section 1.2 – Exponents, Order of Operations, and Inequality

Find the value of the exponential expression.

11. $\left(\frac{2}{3}\right)^4$

Find the value of each expression.

12. $\frac{4\cdot10+9\cdot2}{2(4-2)}$

13. $\left(\frac{5}{6}\right)\left(\frac{3}{2}\right)-\left(\frac{1}{3}\right)^2$

Determine whether each statement is true or false.

14. $3\cdot4\div2^2\neq3$

15. $\frac{5+4\cdot5}{14-2\cdot3}\geq2$

Write the word statement in symbols.

16. Seven is greater than the quotient of fifteen and five

Write the statement with the inequality symbol reversed

17. $\frac{2}{3}<\frac{3}{4}$

Section 1.3 – Variables, Expressions, and Equations

Find the value of the expression if $x=2$ and $y=-4$.

18. $\frac{3y^2+2x^2}{5x+y^2}$

Change the word phrases to algebraic expressions. Use x as the variable.

19. The sum of a number and 4 is divided by twice the number

Determine whether the given number is a solution of the equation

20. $6b+2(b+3)=14\,;\ \ b=2$

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Section 1.3 – Variables, Expressions, and Equations (cont)

Change the word statement into an equation. Use x as the variable. Then find the solution of the equation from the set $\{0,2,4,6,8,10\}$.

21. 10 divided by a number is three more than the number.

State whether each of the following is an equation or an expression.

22. $3x + 2y$

23. $9x + 2y = 2$

Section 1.4 – Real Numbers and the Number Line

List all the sets among the following to which the number belongs: natural numbers, whole numbers, integers, rational numbers, irrational numbers, real numbers.

24. $\sqrt{7}$

25. 2.7

26. $\frac{3}{11}$

Graph the group of numbers on a number line.

27. 3, 5, -1, -3

Select the smaller number in each pair.

28. {-15, -8 }

Decide whether each statement is true or false.

29. $-76 < 45$

30. -12 > -10

Find the additive inverse of the number

31. $\frac{5}{8}$

Simplify by removing the absolute value symbols.

32. $-|23 - 36|$

Section 1.5 – Adding and Subtracting Real Numbers

Find the sum.

33. $-5 + (-7)$

34. $4 + (-21)$

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Section 1.5 – Adding and Subtracting Real Numbers (cont)

Find the difference.

35. $-\frac{3}{10}-\left(-\frac{4}{15}\right)$

Find the sum (using order of operations).

36. $[(-7)+14]+[(-16)+3]$

37. $-\frac{4}{5}+\left[\frac{1}{4}+\left(-\frac{2}{3}\right)\right]$

Write a numerical expression for the phrase and then simplify the expression.

38. -6 subtracted from the sum of 2 and -3

Section 1.6 – Multiplying and Dividing Real Numbers

Find the product.

39. $\left(-\frac{2}{7}\right)\left(-\frac{14}{5}\right)$

Find integer factors of the number.

40. 36

Use the definition of division to find each quotient.

41. $-\frac{27}{35}\div\left(-\frac{9}{5}\right)$

Perform the indicated operations.

42. $\dfrac{-5\left[3\cdot 2^2-(7-4)\right]}{-6[3-(-2)]-3(-8)}$

Evaluate the following expression if $x=-3$, $y=2$, $a=4$.

43. $\dfrac{2x^2-3y}{4a}$

Write a numerical expression for each phrase and simplify.

44. -34 subtracted from two-thirds of the sum of 16 and -10

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Section 1.7 – Properties of Real Numbers

Complete the statement using the commutative property.

45. $2 + [10 + (-9)] = \_\_\_\_\_ + 2$

Complete each statement using the associative property.

46. $[-4 + (-2)] + y = \_\_\_\_\_ + (-2 + y)$

47. $(-r)[(-p)(-q)] = \_\_\_\_\_(-q)$

Use the identity properties

48. 7(1) =

49. -5 + 0 =

Complete the statements so that they are examples of either an identity property or an inverse property. Identify which property is used.

50. $\frac{2}{7} \cdot \_\_\_\_ = 1$

51. $-14 + \_\_\_\_\_ = 0$

Use the distributive property.

52. $-2(5y - 9z)$

53. $n(2a - 4b + 6c)$

Section 1.8 – Simplifying Expressions

Simplify the expression.

54. $4(-6p - 2) + 7p - 5$

State the numerical coefficient of each term.

55. $0.3a^3b$

56. $-\frac{8}{3}vy^5$

Identify each group of terms as like or unlike

57. $2w, -4w, 9w$

58. $x^2, 7x, 12x$

Combine like terms.

59. $a^2 - 4a^3 - 2a^2 + 8a^3$

Use the distributive property and combine like terms to simplify the expression.

60. $2(4x - 1) - (5x + 2)$