Scientific Notation

Name: Key Date: _____

Convert each number from scientific notation to real.

(1) 4.815×10^{3}
4,815

(2) 1.789×10^{-6}
.000001789

(3) 1.485×10^{-5}
.00001485

(4) 4.216×10^{5}
421,600

(5) 7.996×10^{6}
7,996,000

(6) 7.652×10^{6}
7,652,000

(7) 9.199×10^{1}
91.99

(8) 7.724×10^{-3}
.007724

(9) 9.413×10^{4}
94,130

(10) 9.944×10^{5}
994,400

Convert each number from real to scientific notation.

(11) 0.03358
3.358×10^{-2}

(12) 0.07443
7.443×10^{-2}

(13) 0.009661
9.661×10^{-3}

(14) 792,600
7.926×10^{5}

(15) 9,815,000
9.815×10^{6}

(16) 0.02537
2.537×10^{-2}

(17) 0.06231
6.231×10^{-2}

(18) 0.00001466
1.466×10^{-5}

(19) 52,510
5.251×10^{4}

(20) 51.79
5.179×10^{1}

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SECTION 1A **Ready to Go On? Quiz** continued

1-4 Applying Exponents

Multiply.

17. $775 \cdot 10^4$ 7,750,000

18. $0.13 \cdot 10^6$ 130,000

19. $5.357 \cdot 10^2$ 535.7

20. $86.25 \cdot 10^7$ 862,500,000

Write each number in scientific notation.

21. 38,000,000 3.8×10^7

22. 14,500 1.45×10^4

23. 4,700,000 4.7×10^6

24. 397,000 3.97×10^5

25. The earth is about 150,000,000 kilometers from the sun. Write this distance in scientific notation. 1.5×10^8

1-5 Order of Operations

Simplify each expression.

26. $(10 + 4) - 6 + 4^2$ 24

27. $35 - 4 \cdot 9 + 5^3$ 124

28. $(3 \cdot 7) + 6 \cdot 4 - 17$ 28

29. $10^2 \div 5^2 + (28 - 13)$ 19

30. $5(7 - 3)^3 + 2^4$ 336

31. $2(6 + 8) \div (4^2 - 9)$ 4

1-6 Properties

Name the property you should use to simplify each expression.

32. 7(35) Distributive

33. 64 • 1 Identity

34. 4 + 59 + 36 Commutative

35. (4 • 9) • 25 Associative

Simplify each expression using mental math.

36. (88 + 0) + (12 • 1) 100

37. 6(49) 294

38. (14 + 9) + 6 29

39. 8(23) 184

40. 2 • (5 • 16) 160

41. 3 + 89 + 17 109

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Name _____ Date _____ Class _____

SECTION 1B

Ready to Go On? Quiz

1-7 Variables and Algebraic Expressions

Evaluate each expression for the given value of the variable.

1. $6x - 14$ for $x = 5$ 16
2. $3r^2 \div 12$ for $r = 4$ 4
3. $(9 + k) \cdot 8$ for $k = 1$ 80
4. $4(y \div 3)$ for $y = 15$ 20
5. $n^3 - 35$ for $n = 6$ 181
6. $4pt$ for $p = 3$ and $t = 5$ 60
7. $9 - x + t$ for $x = 3$ and $t = 10$ 16
8. $4q^2 - (m \div 3)$ for $q = 7$ and $m = 33$ 185

1-8 Translate Words into Math

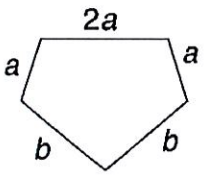
Write each phrase as an algebraic expression.

9. the product of a number and 7 $7x$
10. add 25 to a number $d + 25$
11. a number decreased by 6 $n - 6$
12. the quotient of a number and 5 $a \div 5$ or $\frac{a}{5}$
13. 3 times a number $3y$
14. take away 14 from a number $p - 14$
15. Sarah was 116 cm tall when she started to measure her height. She grows an average of 3 cm each month. Write an algebraic expression to show Sarah's height after h months. $116 + 3h$

1-9 Simplifying Algebraic Expressions

Simplify each expression.

16. $6x - 7 + 3x - 7x$ $2x - 7$
17. $3y^3 + 3y^2 + y^2 - 8$ $3y^3 + 4y^2 - 8$
18. $5 - 6b + a + b$ $5 - 5b + a$
19. $2h + 10 - 5h + 7g + 3g$ $-3h + 10 + 10g$
20. $5r^2 - 34 + 100 + 3r^2$ $8r^2 + 66$
21. $10 - 4h - 5h - 2h$ $10 - 11h$
22. Write an expression for the perimeter of the figure. Then simplify the expression.



$4a + 2b$

$a + a + 2a + b + b$

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SECTION 1B **Ready to Go On? Quiz** continued

1-10 Equations and Their Solutions

Determine whether each number is a solution for the given equation.

23. $4x = 16$; 4 yes

24. $a - 3 = 4$; 8 no

25. $17 + y = 24$; 8 no

26. $5r = 20$; 3 no

27. $29 - t = 13$; 16 yes

28. $n \div 2 = 12$; 24 yes

29. Maria ran 37 miles last month. This month, she ran 8 more miles than last month. Did Maria run 29 miles or 45 miles? 45 miles

1-11 Addition and Subtraction Equations

Solve each equation.

30. $3 + p = 26$ $p = 23$

31. $7 - r = 5$ $r = 2$

32. $t - 9 = 25$ $t = 34$

33. $y + 7 = 15$ $y = 8$

34. $f + 14 = 30$ $f = 16$

35. $46 - c = 31$ $c = 15$

36. $89 - h = 56$ $h = 33$

37. $g - 27 = 18$ $g = 45$

38. $e + 23 = 60$ $e = 37$

1-12 Multiplication and Division Equations

Solve each equation.

39. $4y = 24$ $y = 6$

40. $r \div 7 = 6$ $r = 42$

41. $30 \div t = 6$ $t = 5$

42. $7k = 63$ $k = 9$

43. $3f = 33$ $f = 11$

44. $\frac{h}{4} = 8$ $h = 32$

45. $169 = 13n$ $n = 13$

46. $\frac{45}{x} = 9$ $x = 5$

47. $8p = 96$ $p = 12$

48. Nicole has 36 trading cards that she wants to divide equally among her friends. If each friend gets nine cards, how many friends does Nicole have? 4 friends

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