NAME _____ DATE _____ PERIOD _____

Practice

Simplifying Algebraic Expressions

Identify the terms, like terms, coefficients, and constants in each expression.

1. $6y - 4 + y$

2. $8u + 2u - 3u$

3. $-12h + 5g + 8 - g$

4. $-21w + 5 + 3w - 1$

5. $8a + b - 3a + 4b$

6. $f - 3fg + 2g - fg + 1$

Simplify each expression.

7. $-8q + 6 + 5q - 3$

8. $h + 5h - 3 - 6h$

9. $2a - 5(a + 1)$

10. $b - 2(b - 2)$

11. $9 - t - 3(t + 3)$

12. $-8 + 5(g + 2) - 2$

13. $12m + 9 - 2m - 16$

14. $4(y - 3) + 9 - 3y$

15. $r + r + r + r + r$

16. $-11x + 4 + 8x - 4 + 3x$

17. $-14y + 12(x + y) - 12x$

18. $19g - 4h + 4 - 20(g - 1)$

19. $-5(c + d) - 4d + 5c - d$

20. $(8 - b)(-3) + 6b + 12 - 10b$

21. $-p + q + 2(p + q) - p - q$

22. $-55n + 28n + 21n + 7n - n$

23. $-12z + 4(z - 9) + 30 + z$

Write an expression in simplest form that represents the total amount in each situation.

24. LUNCH You bought 3 pieces of chicken that cost x dollars each, a salad for \$3, and a drink for \$1.

25. SOCCER Sal has scored g goals this season. Ben has scored four times as many goals as Sal. Chun has scored three fewer goals than Ben.

NAME _____ DATE _____ PERIOD _____

4-3 Practice

Solving Equations by Adding or Subtracting

Solve each equation. Check your solution.

1. $z + 6 = -5$	**2.** $x - 8 = -3$	**3.** $c - 2 = 21$	**4.** $v + 9 = 0$
5. $q + 10 = -30$	**6.** $w + 15 = 0$	**7.** $z + 12 = -19$	**8.** $b - 11 = 8$
9. $a - 12 = 0$	**10.** $r + 11 = 12$	**11.** $p + (-9) = 33$	**12.** $n - 16 = -16$
13. $s + 13 = -5$	**14.** $t - (-15) = 21$	**15.** $r - 14 = -23$	**16.** $m + (-3) = 9$
17. $d - 19 = 1$	**18.** $y + 30 = -1$	**19.** $u - 21 = 0$	**20.** $k - 18 = 2$
21. $f - 23 = 23$	**22.** $g - 24 = -24$	**23.** $h + 35 = 7$	**24.** $j + 40 = 25$
25. $x + 3 = -15$	**26.** $c + 22 = -27$	**27.** $v - 18 = -4$	**28.** $b - 41 = -30$
29. $h - 10 = 19$	**30.** $y - (-12) = 0$	**31.** $g + 58 = 9$	**32.** $n + 29 = 4$
33. $j + (-14) = 1$	**34.** $p - 21 = -2$	**35.** $k - (-13) = -8$	**36.** $m + 33 = 16$

37. SAVINGS ACCOUNT Jhumpa has \$55 in her savings account. This is \$21 more than David. Write and solve an equation to find the amount David has in his savings account.

38. WEATHER The temperature fell 16° between noon and 3:00 P.M. At 3:00, the temperature was −3°F. Write an equation to determine the temperature at noon.

NAME _____ DATE _____ PERIOD _____

4-4 Practice

Solving Equations by Multiplying or Dividing

Solve each equation. Check your solution.

1. $8y = 56$
2. $\frac{w}{4} = 12$
3. $-3u = -12$
4. $\frac{r}{-5} = 15$
5. $9d = -9$
6. $-8f = 0$
7. $\frac{n}{-1} = 31$
8. $\frac{v}{14} = -7$
9. $-1b = 24$
10. $-12h = -72$
11. $\frac{r}{24} = -5$
12. $\frac{p}{-6} = -3$
13. $-15x = 90$
14. $-4g = -20$
15. $\frac{z}{20} = -1$
16. $11t = 0$
17. $23g = -92$
18. $-7d = -28$
19. $\frac{m}{-15} = 7$
20. $9k = -9$
21. $6w = 0$
22. $-4r = 120$
23. $\frac{u}{12} = 1$
24. $-11q = -99$
25. $16y = -192$
26. $\frac{n}{-8} = 0$
27. $-7j = 84$
28. $-21p = -231$

Write and solve an equation for each sentence.

29. The product of a number and -6 is -54.

30. The quotient of a number and 6 is -14.

31. **CLASS REPORTS** Each student needs 12 minutes to give a report. A class period is 48 minutes long. Write and solve an equation to determine the number of students who could give a report in one class period.

32. **COOKING** One pound of ground beef makes four hamburger patties. Write and solve an equation to determine how many pounds of beef are needed to make 36 hamburgers.

Name:_____ Date:_____ Period:_____

WS "Stilwell Practice 4-5"

Solve each problem. Show your steps!

1) $2(x+5)=16$

2) $-4(3x+2)=28$

3) $\frac{1}{2}(4x-12)=11$

4) $\frac{1}{3}(6x-9)=11$

5) $4-2x+3=7$

6) $4-(2x+3)=7$

7) $4+3(2x-5)=13$

8) $-(2x+9)+15=0$

9) $3(7-x)=14$

10) $3(y+4)=20$

11) $-3\left(2\frac{1}{3}-2x\right)=9$

12) $4\left(\frac{x}{2}+3\right)-9=3$

13) $2+3(2x-5)=11$

14) $2-3(2x-5)=11$

Name _____ Date _____ Pd_____

Chapter 4 (Expressions and Equations)

Bringing It All Together #1

Vocabulary Check

coefficient	constant	solution	equation	term	Distributive Property	simplifying the expression
solving the equation	simplest form	equivalent expression	inverse operations	like terms	two-step equation	equivalent equations

Complete each sentence with the correct term from the word bank above.

1) Expressions that have the same value are called _____.

2) An algebraic expression is in _____ if it has no like terms and no parentheses.

3) A term without a variable is called a(n) _____.

4) The numerical part of a term that contains a variable is called the_____.

5) A value for the variable that makes an equation true is called a(n) _____.

6) Two _____ have the same solution.

7) The _____ allows you to multiply a sum or difference by a number.

8) An equation that contains two steps is called a(n) _____.

9) Addition and subtraction are examples of _____.

10) _____ contain the same variable.

OVER ⟶

Name _____ Date _____ Pd_____

4-1 The Distributive Property (pp. 171-176)

Use the Distributive Property to write each expression as an equivalent algebraic expression.

_____ 11) $(y + 3)7$

_____ 12) $-2(a - 7)$

_____ 13) $-1(b - 9)$

_____ 14) $(8m - 4)(-5)$

_____ 15) The Stuart family has 5 members. They each purchase a soda at $2.50 each and a hotdog at $3.50 each. Use mental math to find the total cost of the food. Justify your answer by using the Distributive Property.

4-2 Simplifying Algebraic Expressions (pp. 178-183)

Simplify each expression.

_____ 16) $6a + 5a$

_____ 17) $3x + 6x$

_____ 18) $7m - 2m + 3$

_____ 19) $6x - 3 + 2x + 5$

_____ 20) $a + 6(a + 3)$

_____ 21) $2(b + 3) + 3b$

_____ 22) Karen has made 5 less than 4 times that number of free throws that Kimi made. Write an expression in simplest form that represents the total number of free throws.

OVER ⟶

Name _____ Date _____ Pd_____

4-3 Solving Equations by Adding or Subtracting (pp. 184-189)

Solve each equation. Check your solution.

_____ 23) $x + 4 = 10$

_____ 24) $a - 9.45 = -10.6$

_____ 25) $x + 3\frac{1}{4} = 2\frac{1}{5}$

_____ 26) $-5.3 = m + 4.1$

_____ 27) $p - 6 = 12$

_____ 28) $s - \frac{2}{9} = \frac{2}{3}$

29) _____ ; _____

Sonia needs to add 13 more pages to complete an assignment that is supposed to be 37 pages long. Write and solve an addition equation to find how many pages she has already completed.

4-4 Solving Equations by Multiplying or Dividing (pp. 191-196)

Solve each equation. Check your solution.

_____30) $12m = 24$

_____31) $\frac{x}{5} = 4$

_____32) $-2x = 22$

_____ 33) $5x = 25$

_____ 34) $\frac{x}{-4} = 16$

_____35) $\frac{1}{6}x = -4$

36) _____ ; _____

Rosa is making scarves for her friends. Each scarf requires 48 inches of material. Write and solve a multiplication equation to find how many scarves Rosa can make if she has 336 inches of material.

OVER ⟶

Name _____ Date _____ Pd_____

4-5 Solving Two – Step Equations (pp. 199-204)

Solve each equation. Check your solution.

_____37) $3 + 4c = 15$

_____38) $2.1n - 5.31 = 18$

_____39) $\frac{a}{3} + 2 = 5$

_____40) $\frac{x}{5} - 3 = 7$

_____41) $\frac{4}{7} + 2p = \frac{2}{7}$

_____42) $0.12t - 0.6 = -0.06$

_____43) Nate read 10 more books than Maureen for the summer reading program. The total number of books they read is 60. Solve $x + x + 10 = 60$ to find the number of books Nate read.

4-6 Writing Equations (pp. 205-209)

Translate each sentence into an equation. Then find each number.

44) _____ ; _____

Toya bought fruit for $5 and 3 boxes of cereal and spent a total of $17. How much per box of cereal?

45) _____ ; _____

Six less than twice a number is -22

46) _____ ; _____

Noelle spent $36 on books and pens. She spent $12 more on books than she did on pens. How much did she spend on books?

FINALLY DONE