

Algebra 1

Name _____ ID: 1

Study Guide Unit 1

Date _____ Period _____

Evaluate each expression for $a = 2$, $b = 3$, and $c = 6$.

1) $c - a$
4

2) ab
6

3) $c \div a$
3

4) $b - a$
1

Give 2 ways to write each in words:

5) $x - 4$
x minus 4, 4 from x, x subtract 4 ...

6) $3 \div r$
3 divided by r, the quotient of 3 and r, r into 3 ...

7) $7 + k$
7 plus k, k added to 7, the sum of 7 and k ...

8) $14 - w$
14 subtract w, w from 14, 14 minus w ...

9) $3s$
the product of 3 and s, 3 multiplied by s, 3 times s ...

10) $-9 + u$
-9 plus u, the sum of -9 and u, -9 added to u ...

Solve each equation.

11) $-16k = 304$
{-19}

12) $-33 = x + (-14)$
{-19}

13) $-2 - x = 1$
{-3}

14) $3 = \frac{v}{9}$
{27}

15) $v - 20 = -8$
{12}

16) $10 - b = 20$
{-10}

17) $34 = -2r + 10$
{-12}

18) $\frac{x + 10}{3} = 3$
{-1}

19) $-150 = 10(-3 + x)$
{-12}

20) $\frac{x - 6}{-6} = -1$
{12}

21) $3 = \frac{b - 3}{-6}$
{-15}

22) $-5x + 1 = -39$
{8}

23) $120 = 3(-6k - 2)$
{-7}

24) $8(x - 7) = -112$
{-7}

25) $6(3x + 3) = 90$
{4}

26) $7(2n + 5) - 2 = 103$
{5}

27) $5(x + 8) - 2(1 + 5x) = 78$
{-8}

28) $7(x + 3) + 2(4x + 2) = -35$
{-4}

29) $-23 + 5a = -2(4 - 4a)$
{-5}

30) $-17 + 5x = -2(x - 2)$
{3}

31) $-8x + 29 = 6 + 5(7x - 4)$
{1}

32) $-7n - 8(-3n + 5) = 7n + 10$
{5}

Find the indicated value:

33) If $2p = 4$, find the value of $6p + 10$.

22

35) If $n \div 2 = -11$, find the value of $6n$.

-132

34) If $3x = 15$, find the value of $12 - 4x$

-8

36) If $r - 3 = 4$, find the value of $-2r$

-14

Write the expression:37) Julia wrote 14 letters to friends each month for y months in a row. Write an expression to show how many total letters Julia wrote.

14y

38) Salvador's class has collected 88 cans in a food drive. They plan to sort the cans into x bags, with an equal number of cans in each bag. Write an expression to show how many cans there will be in each bag. $88 \div x$ **Write the expression & solve:**39) Juan scored 26 points in the first half of the basketball game, and he scored n points in the second half of the game. Write an expression to determine the number of points he scored in all. Then, find the number of points he scored in all if he scored 18 points in the second half of the game.

26 + n; 44 points.

40) Isabel reads 15 books from the library each month for y months in a row. Write an expression to show how many books Isabel read in all. Then, find the number of books Isabel read if she read for 12 months.

15y; 180 books

Write an equation and solve the word problem:

41) Luis deposited \$500 into his bank account. He now has \$4732. Write and solve an equation to find how much was in his account before the deposit. Show that your answer is reasonable (i.e. Solve your equation).

 $a + 500 = 4732$; \$4232

42) The Baseball Birthday Batter Package at a minor league ballpark costs \$192. The package includes tickets, drinks, and cake for a group of 16 children. Write and solve an equation to find the cost per child, then tell how much it costs per child.

 $16c = 192$; \$12

43) Alex belongs to a music club where discount cards are \$19.95. This card allows members to buy CDs for \$3.95 each. After one year, Alex has spent \$63.40. Write and solve an equation to show how many CDs Alex bought during the year.

 $53.40 = 3.95c + 19.95$; 11

44) Seven less than twice a number equals 19.

 $2n - 7 = 19$. $n = 13$

45) Eight decreased by 3 times a number equals 2.

 $8 - 3n = 2$; $n = 2$

46) The sum of two times a number and 5 is 11.

 $2n + 5 = 11$; $n = 3$

47) Five times a number is 45.

 $5n = 45$; $n = 9$

48) A number divided by 4 is equal to negative 10.

 $n/4 = -10$; $n = -40$

49) A number decreased by 13 is equal to 7.

 $x - 13 = 7$; $x = 20$

50) The sum of 5 and a number is 6.

 $5 + x = 6$; $x = 1$