Name _____ Date _____ Pd_____

Chapter 3: Linear Equations and Functions
Bringing It All Together #1

Vocabulary Check

1. Define **Expression:**_____

_____

2. Define **Equation:**_____

_____

State whether each sentence is *true* or *false*. If *false*, replace the underlined word or number to make a true sentence.

3. The expression $\frac{1}{3}y$ means <u>one third of y</u>.
4. The words *more than* sometimes suggest the operation of <u>multiplication.</u>
5. The algebraic expression representing the words *six less than* m is <u>$6 - m$</u>.
6. The solution to the equation $p + 4.4 = 11.6$ is <u>7.2</u>.
7. The expression $5x$ means <u>5 more than x.</u>
8. To balance the equation $2r + 5 = 11$, you would <u>divide by 2</u> on each side first.

3-1 Writing Expressions and Equations (pp. 128-133)

Write each phrase as an algebraic expression.

9. _____ the sum of a number and five
10. _____ six inches less than her height
11. _____ twice as many apples

Write each sentence as an algebraic equation.

12. _____ Ten years older than Mia's age is twenty-five.
13. _____ Four less than a number is nineteen.
14. _____ The quotient of fifty-six and a number is fourteen.

OVER ⟶

Name _____ Date _____ Pd_____

3-2 Solving Addition & Subtraction Equations (pp. 84-87)

Balance each equation. Show your steps!

15. $x + 5 = 8$

16. $p + 9 = -4$

17. $n - 1 = -3$

18. $r + 8 = 2$

19. $s - 8 = 15$

20. $w - 9 = 28$

21. Marjorie baked some chocolate chip cookies for her family. They ate 6 of these cookies. If there were 18 cookies left, write and solve an equation to find how many cookies, c, Marjorie ate.

3-3 Solving Multiplication Equations (pp. 142-146)

Balance each equation. Show your steps!

22. $7c = 28$

23. $-8w = 72$

24. $-12r = -36$

25. $9z = -81$

26. Matt borrowed $\$98$ from his father. He plans to repay his father at $\$14$ per week. Write and solve an equation to find the number of weeks, w, required to pay back his father.

OVER ⟶

Name _____ Date _____ Pd_____

5-6 Division Equations (pp. 258-263)

Find the multiplicative inverse of each number!

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

28. $5\frac{7}{9}$

Balance each equation. Show your steps!

29. $\frac{a}{4} = 8$

30. $27 = \frac{3}{5}h$

31. $-\frac{3}{8}n = \frac{1}{4}$

32. $-\frac{1}{3}p = -81$

3-5 Two-Step Equations (pp. 151-155)

Balance each equation. Show your steps!

33. $4c + 2 = 26$

34. $\frac{w}{6} + 3 = 12$

35. $\frac{3}{5}t - 5 = 40$

36. $-8f + 1 = 17$

OVER⟶

Name _____ Date _____ Pd_____

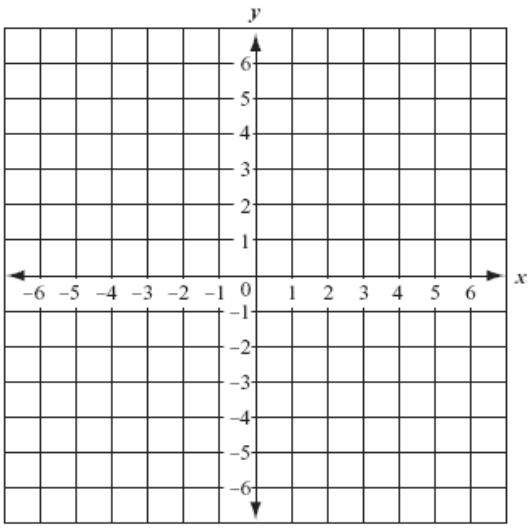
3-7 Functions and Graphs (pp. 163-167)

Complete each function table using 3 values.

Graph each equation.

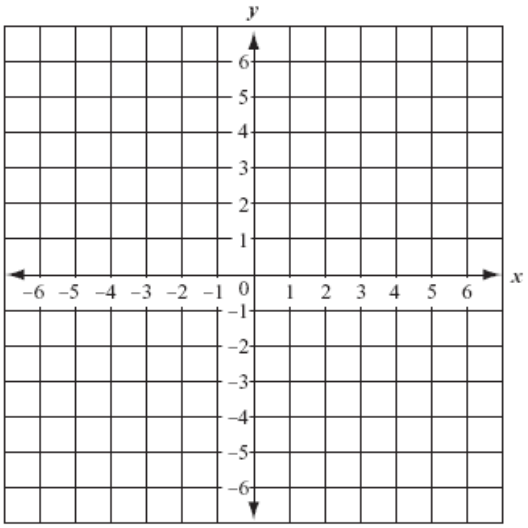
37. $y = x + 5$

x	y



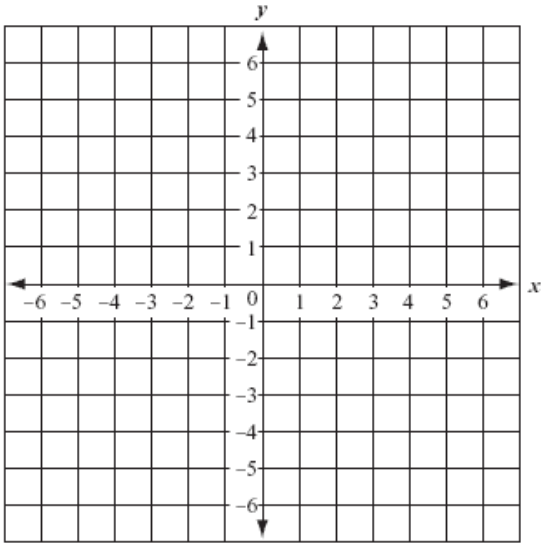
38. $y = 3x + 2$

x	y



39. $y = -2x + 3$

x	y



FINALLY DONE

Name _____ Date _____ Pd_____

Chapter 3 BIT #1 Answer Key

Vocabulary Check

1. Define **Expression:** **a group of numbers and/or variables with an operation**

2. Define **Equation:** **two equal expressions**

State whether each sentence is *true* or *false*. If *false*, replace the underlined word or number to make a true sentence.

3. The expression $\frac{1}{3}y$ means one third of y. — True

4. The words *more than* sometimes suggest the operation of multiplication. — False; addition

5. The algebraic expression representing the words *six less than* m is $6 - m$. — False; $m - 6$

6. The solution to the equation $p + 4.4 = 11.6$ is 7.2. — True

7. The expression $5x$ means 5 more than x. — False; 5 times the value of x

8. To balance the equation $2r + 5 = 11$, you would divide by 2 on each side first. — False; subtract 5

3-1 Writing Expressions and Equations (pp. 128-133)

Write each phrase as an algebraic expression.

9. $n + 5$ — the sum of a number and five

10. $h - 6$ — six inches less than her height

11. $2a$ — twice as many apples

Write each sentence as an algebraic equation.

12. $m + 10 = 25$ — Ten years older than Mia's age is twenty-five.

13. $n - 4 = 19$ — Four less than a number is nineteen.

14. $\frac{56}{n} = 14$ — The quotient of fifty-six and a number is fourteen.

Name _____ Date _____ Pd_____

3-2 Solving Addition & Subtraction Equations (pp. 84-87)

Balance each equation. Show your steps!

15. $x + 5 = 8$

$-5 \quad -5$

$x = 3$

16. $p + 9 = -4$

$-9 \quad -9$

$p = -13$

17. $n - 1 = -3$

$+1 \quad +1$

$n = -2$

18. $r + 8 = 2$

$-8 \quad -8$

$r = -6$

19. $s - 8 = 15$

$+8 \quad +8$

$s = 23$

20. $w - 9 = 28$

$+9 \quad +9$

$w = 37$

21. Marjorie baked some chocolate chip cookies for her family. They ate 6 of these cookies. If there were 18 cookies left, write and solve an equation to find how many cookies, c, Marjorie ate.

$c - 6 = 18$

$+6 \quad +6$

$c = 24\ cookies$

3-3 Solving Multiplication Equations (pp. 142-146)

Balance each equation. Show your steps!

22. $\frac{7c}{7} = \frac{28}{7}$

$c = 4$

23. $\frac{-8w}{-8} = \frac{72}{-8}$

$w = -9$

24. $\frac{-12r}{-12} = \frac{-36}{-12}$

$r = 3$

25. $\frac{9z}{9} = \frac{-81}{9}$

$z = -9$

26. Matt borrowed $98 from his father. He plans to repay his father at $14 per week. Write and solve an equation to find the number of weeks, w, required to pay back his father.

$$\frac{14w}{14} = \frac{98}{14}$$

$w = 7$

Name _____ Date _____ Pd_____

5-6 Division Equations (pp. 258-263)

Find the multiplicative inverse of each number!

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

28. $5\frac{7}{9}$ $\frac{9}{52}$

Balance each equation. Show your steps!

29. $\frac{a}{4} = 8$

$(4)\frac{a}{4} = 8(4)$

$a = 32$

30. $\frac{3}{5}h = 27$

$\left(\frac{5}{3}\right)\frac{3}{5}h = 27\left(\frac{5}{3}\right)$

$45 = h$

31. $-\frac{3}{8}n = \frac{1}{4}$

$\left(-\frac{8}{3}\right)-\frac{3}{8}n = \frac{1}{4}\left(-\frac{8}{3}\right)$

$n = -\frac{2}{3}$

32. $-\frac{1}{3}p = -81$

$(-3)-\frac{1}{3}p = -81(-3)$

$p = 243$

3-5 Two-Step Equations (pp. 151-155)

Balance each equation. Show your steps!

33. $4c + 2 = 26$

$-2 \quad -2$

$\frac{4c}{4} = \frac{24}{4}$

$c = 6$

34. $\frac{w}{6} + 3 = 12$

$-3 \quad -3$

$(6)\frac{w}{6} = 9(6)$

$w = 54$

35. $\frac{3}{5}t - 5 = 40$

$+5 \quad +5$

$\left(\frac{5}{3}\right)\frac{3}{5}t = 45\left(\frac{5}{3}\right)$

$t = 75$

36. $-8f + 1 = 17$

$-1 \quad -1$

$\frac{-8f}{-8} = \frac{16}{-8}$

$f = -2$

Name _____ Date _____ Pd_____

3-7 Functions and Graphs (pp. 163-167)

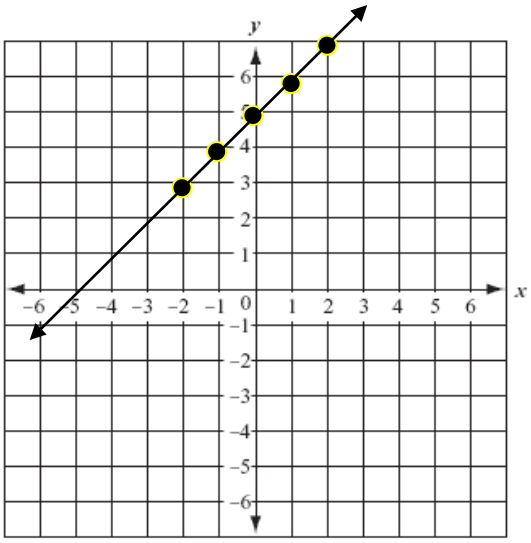
Complete each function table using 3 values.

Graph each equation.

37. $y = x + 5$

need only 3

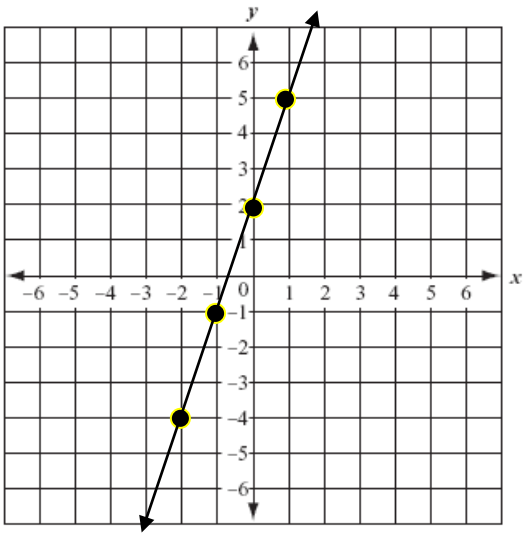
x	y
-5	0
-4	1
-3	2
-2	3
-1	4
0	5
1	6
2	7



38. $y = 3x + 2$

need only 3

x	y
-2	-4
-1	-1
0	2
1	5



39. $y = -2x + 3$

need only 3

x	y
-1	5
0	3
1	1
2	-1
3	-3
4	-5