

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Period \_\_\_\_\_

## Algebra I: Semester 1 Review Packet for Chapters 1, 2 and 3.

1. Write an algebraic expression for the phrase 2 less than a number.
2. Write an algebraic expression for the phrase 8 times the sum of 12 and x.
3. Evaluate  $(xyz)^3$  for  $x = -1, y = 2, z = 3$
4. Evaluate  $|2y - z|$  for  $y = 5, z = -4$

5. Simplify  $\frac{2}{3} - \frac{3}{4}$

6. Simplify  $\frac{-5}{8} + \frac{4}{5}$

7. Write an equation to model the data shown in the table:

<i>a</i>	<i>b</i>
3	7
4	8
5	9
6	10
7	11

8. Simplify  $(-5)^3$
9. Simplify  $-5^3$
10. Simplify  $-4^4$

10a. Simplify  $4^{\frac{3}{2}}$

10b. Simplify  $8^{\frac{2}{3}}$

10c. Simplify  $64^{\frac{5}{3}}$

11. Simplify  $-(x+3y)$

12. Simplify  $-4(2x+3)$

13. Simplify  $5-(x+4)$

14. Simplify  $\frac{1}{4}(8x+16)$

15. Simplify  $\frac{-2}{5}(10x-30)$

16. Simplify  $-2(3x-1)+2x-8$

Name the sets of numbers to which each belongs:

17.  $\frac{1}{2}$

18. 42

19. -13

20. Write from least to greatest:  $\frac{1}{3}, \frac{-2}{3}, \frac{3}{8}, -1$

Name the property shown by each equation:

21.  $7+5=5+7$

22.  $2 \cdot (3 \cdot 5) = (2 \cdot 3) \cdot 5$

23.  $7+0=7$

Tell in which quadrant or on which axis each point would be found:

24.  $(-3,0)$

25.  $(-5,-3)$

26.  $(3,-2)$

Solve each equation:

27.  $\frac{2}{3}x = 40$

28.  $x + \frac{2}{5} = \frac{-2}{3}$

29.  $4b + 5 = -2b - 13$

30.  $4 = \frac{x-5}{3}$

31.  $7 = \frac{p}{-2} - 5$

32.  $3x + 4 = 2(x+1) - 4(x+2)$

33. The sum of two consecutive integers is 35. Write and solve an equation to find the values of the integers.

34. The sum of two consecutive odd integers is 44. Write and solve an equation to find the values of the integers.

35. The width of a rectangle is 2 cm less than its length. The perimeter of the rectangle is 16 cm. What are the length and width of the rectangle?

36. Solve for  $c$ :  $d = 2ce$

37. Solve for  $r$ :  $2r + 4 = 6x$

38. Graph  $x > 4$

39. Graph  $x \leq -1$

40. You want to get at least an 88 on the next test. Write and graph an inequality to model this situation.

41. Solve and graph:  $-2x > 8$

42. Solve and graph:  $b + 7 \leq -3$

43. Solve and graph  $-8 < 3x + 1 < 10$

44. Solve and graph:  $4x - 1 < 5$  or  $-2x < -4$

45. Solve  $-6x + 12 > 18$