

Name: _____
Period: _____

Date: _____
Equations Unit Test

Solve each problem completely. Show work where necessary. Box your answers.

Write a numerical phrase for each verbal phrase.

1. *three increased by nine*
2. *six less than ten*
3. *the product of a number and 5*
4. *four less than the quotient of sixteen and a number*
5. *twice Jim's score decreased by 18*

Evaluate each expression if $a = 2$, $b = 4$, and $c = 3$

6. $ba - ac =$ 7. $4b + a \cdot a =$ 8. $36 - 12c =$

Find the solution of each equation from the list given.

9. $16 - f = 11$; 3, 5, 7

10. $4b + 1 = 17$; 3, 4, 5

11. $9 = \frac{72}{m}$; 8, 9, 11

Simplify each expression.

12. $4(y + 2) - 2$

13. $3p - 2(p + 6q)$

Simplify each expression.

14. $4x + 5x$

15. $9r - r$

16. $6 + 3y - 1$

17. $3(a + 2) + a$

18. $5m - 4n + 5m + 6n$

19. $5x - 3(x-2)$

Define a variable. Write an equation, then solve.

20. A number decreased by four is twelve.

21. Twice a number is negative eight.

22. The quotient of a number and six is eleven.

23. The sum of a number and negative five is six.

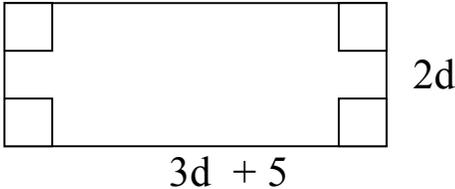
24. Sally had some candy and bought five more pieces. Now she had fourteen pieces. How many pieces of candy did she have?

25. A pizza was divided among three students and each student got five pieces. How many pieces were in the whole pizza?

Solve the following equations. Check your solutions.

26. $x - 3 = 5$	27. $-x = -4$
28. $x + 12 = 19$	29. $x + (-5) = -9$
30. $4x = 48$	31. $\frac{x}{-7} = -2$
32. $\frac{x}{3} = 9$	33. $-2x = 12$
34. $x - (-4) = 9$	35. $7x = -49$

Simplify each expression.

36. $2(k + 4) - 7$	37. $27x + 4x - 1$
38. Find the rectangle's perimeter 	39. $3z + 7y + (-5z) - 8$

Solve each equation. Check your solution.

40. $2(g - 7) = 16$	41. $28 = 11x - 5$
42. $5 + 3x - 2 = 30$	43. $\frac{x}{5} - 9 = -2$

$$44. 2x - 8 = 12$$

$$45. \frac{a}{3} = -21$$

$$46. 6v - 3 = 15$$

$$47. 18 - \frac{t}{2} = 30$$

$$48. 3y + 9 = -18$$

$$49. 15 = -5(h + 2)$$

$$50. -5 = -y$$

$$51. 3(f + 1) = 4f + 6$$

Word Problems: Define a variable, write an equation and solve.

52. Tickets to the county fair cost \$8 each. Seventy people purchased their tickets in advance and the rest bought them at the gate. The revenue from the ticket sales is \$2560. How many people bought their tickets at the gate?

53. A train is traveling at 54 mph. How long will it take to go 378 miles?

54. The area of a rectangle is 276 cm^2 and the width is 12 cm. What is the length?

Find the perimeter and area of the rectangle.

1. A rectangle with a length of 31 meters and a width of 3 meters.