

Algebra II Worksheet #2 Unit 1 page 1 _____

Simplify each of the following expressions.

1. $3(5x + 7) + 2(3x - 5) =$ _____

2. $8(3x - 5) + 4(2x + 10) =$ _____

3. $5(x - 7) - 3(2x + 3) =$ _____

4. $-2(3x - 5) - 3(x - 2) =$ _____

Solve each of the following equations. Show your process steps neatly organized.

5. $5x + 3 = 17$

6. $8x - 9 = 3x + 7$

7. $2x + 2(2x - 3) = 36$

8. $3(2x + 1) + 5(x - 3) = 5(2x - 1) + 2(2x + 1)$

9. $x + (3x + 5) + (2x - 1) = 16$

10. $5(2x - 1) - 8(x + 1) = 4(2x + 3) - 2(5x - 3)$

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Solve each of the following for the indicated variable. Show your process steps neatly organized.

11. $C = P + a(n - 10)$ solve for n

12. $I = prt$ solve for p

13. $y = m(x - a) + c$ solve for a

14. $R(a + b) = ab$ solve for b

15. $V = (1/3)\pi r^2 h$ solve for h

16. $xy = (2/3)(ay - 5b)$ solve for y

17. $K = A + (N - 1)D$ solve for N

18. $A = (1/2)(b_1 + b_2)h$ solve for b_2

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Solve each of the following word problems algebraically. Show your process steps neatly organized. (Use only one variable in your solutions please.)

19. John has twice as many marbles as Tim. Jane has four more marbles than Tim. All together they have 212 marbles. How many does each person have?

20. The length of a rectangle is 5 inches more than 3 times its width. The perimeter of the rectangle is 8 feet. Find the dimensions of the rectangle.

21. A collection of ordinary coins consists of dimes, nickels, and quarters. The number of quarters is 2 less than 3 times the number of nickels. The number of dimes is 8 more than two times the number of nickels. If the collection is worth \$32.30 , then how many coins of each type are there?

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Solve each of the following word problems algebraically. Show your process steps neatly organized. (Use only one variable in your solutions please.)

22. Tom, Dick, and Harry win a total of \$25,000. Tom wins \$100 more than 3 times the amount Harry wins. Dick receives \$300 less than twice the amount Harry receives. How much did each person win?

23. The cost of a burger is 9 cents more than twice the cost of a soda. The cost of a hot dog is 24 cents more than the cost of a soda. If 3 burgers, 7 hotdogs and 10 sodas cost a total of \$14.60, then what is the cost of each item?

24. Find three consecutive odd integers whose sum is 111.