Algebra II Class Worksheet #1 Unit 1 page 1 _____

Simplify each of the following expressions.

1. 3(5x + 2) + 4(3x – 1) = _____

2. 5(2x – 7) + 6(x + 2) = _____

3. 4(x + 6) – 3(2x + 5) = _____

4. 2(5x – 3) – 5(4x – 7) = _____

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

5. 6x + 7 = 27

6. 3x – 8 = 9

7. 7x + 3 = x + 7

8. 3x – 2 = 7x – 8

9. 2x + 2(3x + 1) = 34

10. x + (5x + 2) + (3x – 3) = 62

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

11. **$ax + by = c$ solve for y**

12. **$A = \pi r^2 + 2\pi rh$ solve for h**

13. **$A = p(1 + rt)$ solve for r**

14. **$C = (5/9)(F - 32)$ solve for F**

15. **$PQ = F + VQ$ solve for Q**

16. **$S = 2\pi rh$ solve for r**

17. **$A = (½)bh$ solve for b**

18. **$x(y + z) - 2(y - z) = 1$ solve for z**

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

19. The length of a rectangle is 3 inches less than twice its width. The perimeter of the rectangle is five feet. What are the dimensions of the rectangle?

20. A hotdog costs 75 cents more than a soda. A burger costs 20 cents less than three times as much as a soda. 4 burgers, 3 hotdogs, and 7 sodas cost a total of $19.05. How much does each item cost?

21. In a collection of ordinary dimes and quarters, the number of dimes is 3 more than 4 times the number of quarters. If the total value of the collection is $12, then how many coins of each type are there?

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

22. An iron rod that is ten feet long is cut into three pieces. The length of the longest piece is two inches more than three times the length of the shortest piece. The middle piece is eight inches longer than the shortest piece. How long is each piece?

23. A collection of sixty ordinary quarters and nickels is worth a total of $8. How many coins of each type are there in the collection?

24. Find six consecutive integers whose sum is 333.