

Secondary Math III
Solving Linear Equations & Inequalities
Assignment 1.4

Name: _____
Period: _____

Solve the linear equation and check your answer.

1. $7x - 4x + 15 = x + 8$

2. $(9 - 3a) - (4 + 2a) - 3 = -(2 - 5a) - a + 1$

3. $-(-2 + 4x) - (3 - 4x) + 5 = -(-3 + 6x) + x + 1$

4. $\frac{2x-3}{7} + \frac{3}{7} = -\frac{1}{3}x$

5. $0.20(14,000) + 0.14y = 0.18(14,000 + y)$

Solve the polynomial equation by factoring. Show factored form! Be sure to write it in standard form and set it = 0 first.

6. $x^2 - 7x = 0$

7. $c^2 + 9 = -10c$

8. $x^2 - 10x + 25 = 0$

9. $3p^2 + 9p + 30 = 2p^2 - 2p$

10. $9x^2 - 81 = 0$

11. $2k^2 + 7k + 3 = 0$

12. $(x+5)(x-3) = -7$

13. $(2x+1)(x-3) = 6x+3$

Solve the inequality. Express the result with a graph on the number line and with interval notation.

14. $2x - 5 < 7$

15. $3x + 2 \leq x - 4$

16. $1 \leq -4x + 3$

17. $3(8x + 2) > 18x$

18. $5x + 3 < 7x - 13$

19. $\frac{8x - 6}{4} \geq 3$

Review:

Simplify each expression.

20. $(6 - 5r - 2r^3) - (6r + 8r^3 - 4)$

21. $(x + 4)^2$

22. $(-7n + 4)(4n + 2)$

23. $f(x) = x + 1$
 $g(x) = x^3 + 5x$
Find $(f + g)(x)$

Factor.

24. $10n^2 + 45n - 175$

25. $2x^2 + 9x + 9$