Algebra 2 Semester A Final Part 1 Review Assignment

Solve each inequality. Write the solution using interval notation. Graph each solution on a number line.

1. $5|-2n-4|+5 \geq 115$

2. $|x+2| > \frac{1}{4}$

3. $3-2|5+2x| < -3$

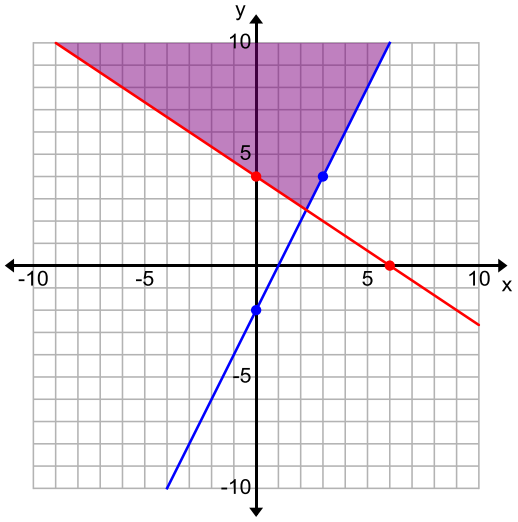
4. $-56 < 8n+8 \leq 88$

5. $-1+8m < -41$ *or* $7m-1 \geq -15$

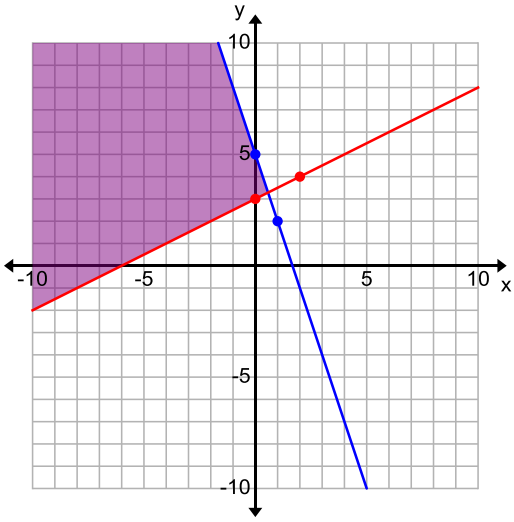
6. $-4(3-a) > 6a-18$

Write a system of inequalities to represent the given graph.

7.



8.



Graph the following system of inequalities. Shade only the solution region.

9. $x \geq 0$
   $x \leq 10$
   $3x + 2y \leq 36$
   $4x + 3y \leq 24$

10. $3 \leq x \leq 8$
    $2 \leq y \leq 10$
    $3x + 2y \leq 18$

Completely factor the following polynomials. If it cannot be factored write Prime.

11. $6x^2 + x - 15$

12. $-32x^2 + 36x - 10$

13. $4x^2 + 8x - 48$

14. $x^2 + x - 12$

15. $8x^2 + 14x - 15$

16. $2x^2 - 11x - 24$

Solve each quadratic equation using the method you prefer.

17. $f(x) = x^2 - 3x - 27$

18. $x^2 - 6x - 16 = 0$

19. $4x^2 + 20x = -34$

20. $6x^2 + 7x - 5 = 0$

21. $x^2 + 6x = -13$

22. $16x^2 + 8x - 2 = 0$

23. $x^2 - 12x = 9$

24. $f(x) = x^2 + 4x - 32$

25. $6x^2 + 11x - 35 = 0$

Find the discriminant. Then state the number and type of solutions. DO NOT SOLVE!!

26. $x^2 + 7x + 13 = 0$

27. $2x^2 + 5x - 7 = 0$

28. $9x^2 + 6x + 1 = 0$

29. $x^2 + 4x - 2 = 0$

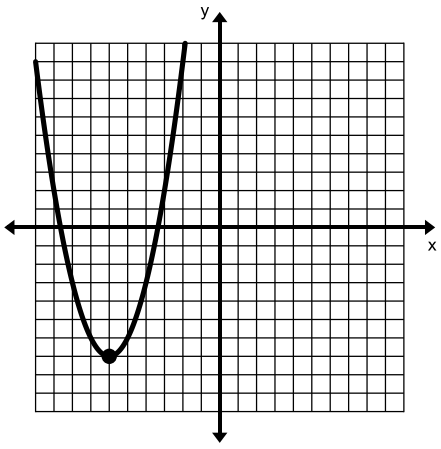
For the following quadratic functions, describe the translation from the parent function $f(x) = x^2$. Then graph it on the axis provided.

30. $f(x) = (x - 2)^2 - 5$

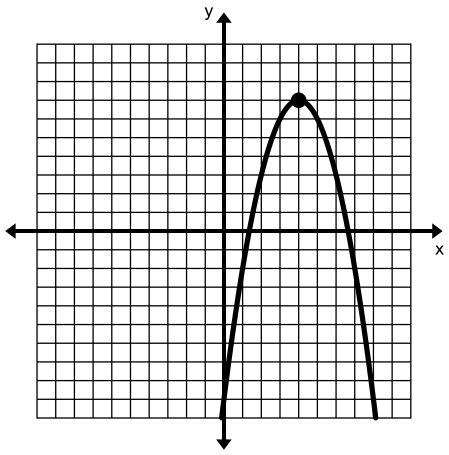
31. $f(x) = -(x + 1)^2 + 3$

State the domain and range for the following functions.

32.



33.



34. $f(x) = 2x^2 - 10x + 9$

35. $f(x) = 2x - 7$