Algebra 2 CP Review Packet

Name _____ Date _____

Bring this completed assignment with you on the first day of class. You must clearly label, copy, and complete each problem on a separate piece of paper and attach it to this packet. Do not complete the packet in a notebook. You must show all work to receive credit for the assignment.

Evaluate each expression using order of operations.

1. $9 - 3 \div 4 \cdot 2 + 12 \div 6 \cdot 3 + 1$ _____
2. $6 - (1 + 2)^3 - 18 \div 6$ _____

Evaluate each of the following if $x = 4, y = -4,$ and $z = -12.$

3. $z - y$ _____
4. $y - (x - z)$ _____
5. $\frac{(z-y)^2}{x}$ _____

Simplify the following expressions. All answers should contain only positive exponents.

6. $c^3 \cdot c^7$ _____
7. $(2x^2y^3)(-4x^5y^4)$ _____
8. $(-2y^8)^2$ _____
9. $\frac{-16x^7y^5}{-4xy^9}$ _____
10. $\frac{(-2x^3y^{-2})^2}{x^{-2}y}$ _____

Simplify the flowing expressions.

11. $x + 3y - (3z + y)$ _____

12. $2(3x - 5y) - (2x - 3y - z) + 2(y - z)$ _____

13. $-3(2 - 7m)$ _____

14. $\frac{-18x+12}{-6}$ _____

Solve each equation for the variable.

15. $5(3x + 5) = 4x - 8$ _____

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

17. $2(3x - 1) + 4x = 10(2 - 3x) + 38x$ _____

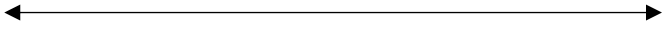
18. $9(2 - y) + 3(5 + 2y) = 2(7 - 2y) - 4(y - 1)$ _____

19. $3(x - 3) - 7(x + 3) = 4(2x - 3) - 8(2x + 3)$ _____

Solve each inequality and graph the solution on a number line.

20. $x - 5 < -2$

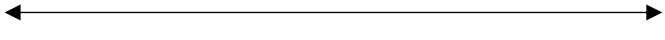
21. $-5x \geq 2x - 6$



22. $2x - 1 \geq 1$ and $6x + 4 < 16$

23. $x + 4 < 1$ or $x + 1 \geq 0$

24. $-10 < 2x - 2 \leq -4$



Find the sum or difference of each of the following polynomials. Be sure to write your answer in standard form.

25. $(3h^2 - h + 7) + (2h^2 - 3h - 4)$ _____

26. $(7x^3 - 3x) + (2 - x^2 + 2)$ _____

27. $10a^2 + 2a - 8 - (9a^2 + 8)$ _____

28. $(6x^3 - 10x - 9) - (7x^2 - x^3 + 8)$ _____

Find the product of the polynomials. Write the answer in standard form.

29. $7x^2y(8x^3 - 3xy^4)$ _____

30. $(x - 4)^2$ _____

31. $(3x - 1)(2x + 3)$ _____

Find the slope of the line containing each pair of points. Recall that the slope formula is:

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

32. (3, 9) and (1, 5) _____

33. $(-1, 3)$ and $(5\ 3)$ _____

34. $(-3, -8)$ and $(-6, -2)$ _____

Write an equation for each line in slope-intercept form ($y = mx + b$) if

35. The slope is 2 and the *y*-intercept is 4 _____

36. The slope is -3 and the *x*-intercept is 2 _____

37. It is passing through the points $(-1, -2)$ and $(0,7)$. _____

38. It is passing through the points $(-2, 3)$ and $(8, 4)$. _____

39. It is parallel to the line $2x - 3y = 9$ and has a *y*-intercept of 3 _____

40. It is perpendicular to the line $y - 4x = 2$ and passes through the point $(-1, -2)$. _____

41. It is parallel to the line $y = 5$ and passes through the point $(6, -7)$. _____

Use graph paper to graph each of the following linear equations.

42. $y = -2x - 5$

43. $3y = 6x + 18$

44. $2y + 4x = 8$

45. $y - 7 = x + 2$

46. $y = \frac{2}{3}x + 1$