Name_____

Honors Geometry Summer Assignment

1. Solve: $x - (15x - 6) = 104$ 1. _____

2. If $y = 3, then - y^2 =$ 2. _____

3. Solve for r: $A = p + prt$ 3. _____

4. Multiply: $(4x - 3)(x - 4)$ 4. _____

5. Find the distance between $P(-4, 6) and\ Q(-2, -8)$ 5. _____

6. Solve: $x^2 - x = 12$. 6. _____

7. The value of $3^{-2} + 2^{-3}$ is: 7. _____

8. Solve: $15 + 10x > -4x + 3$ 8. _____

9. The perimeter of a rectangle is 28 in. If the length is 9 in, find it's area.

   9. _____

10. Solve the equations $2(m + 5) = -25\ and\ 4(2 - n) - 2 = 41$. What is the sum of the solutions for *m* and *n*? 10. _____

11. If $x + y = 6\ and\ x = y + 2$, what is the value of y? 11. _____

12. Find the equation of the line containing the point (-3, -12) and a slope of -4.
12. _____

13. A boy is mowing a rectangular lawn 40 ft. long and 30 ft wide. He has cut all of it except for a rectangle that is 20 ft. long and 15 ft. wide. What fractional part of the lawn remains uncut?
13. _____

14. Write an equation of a line perpendicular to the line containing the points K(3, -6) and L(10, 17).
14. _____

Simplify each expression for #'s 15-18.

15. $y(y^2 + 3)$ 15. _____

16. $(2y + 3)(y^2 + 3y - 1)$ 16. _____

17. $(5x^2)(-3x^3)$ 17. _____

18. $\frac{5x^2}{x^3 - x^2}$ 18. _____

19. Solve: $\frac{4}{3y} + \frac{5}{2y} = 1$ 19. _____

Solve each systems of equations.

20. $\begin{cases} 2x + 5y = 12 \\ 2x + 3y = 8 \end{cases}$ 20. _____

21. $\begin{cases} 3x - 2y = 10 \\ y = x + 3 \end{cases}$ 21. _____

22. $\begin{cases} -4x - 2y = 14 \\ -10x + 7y = -25 \end{cases}$ 22. _____

Express each ratio in simplest form.

23. $\frac{4w^2}{22w}$ 23. _____

24. $\frac{a+b}{4a+4b}$ 24. _____

25. $60x^2 : 15x$ 25. _____

26. What is the y-intercept? $6x - 4y = 12$ 26. _____

27. P is between J and K. The distance between J and P is 7 more than 3 times the distance between P and K. If JK = 55, what is PK? 27. _____

Translate each problem below into an equation and solve.

28. Taylor and Blair are driving away from each other in opposite directions. If Blair's speed is 70 mph and Taylor's speed is 80 mph, how many hours will it be before the two are 225 miles apart?
28. _____

29. Adrian and Landry are employees at the local car wash. If Adrian can wash 3 cars per hour, and Landry can wash 5 cars per hour, how many hours will it take them to wash 56 cars?
29. _____

30. Solve: $x^2 - 12x + 27 = 0$ 30. _____

31. Solve: $4x^2 + 16 = 32$ 31. _____

32. Solve: $x^2 + 4x - 1 = 0$ 32. _____

33. Solve: $3x^2 - 12x = -11$ 33. _____

34. Solve: $4x^3 - 4x = 0$ 34. _____

35. Solve: $\frac{-4}{x+3} = \frac{5}{x-3}$ 35. _____

Factor completely for #'s 36-42.

36. $16x^2 - a^2$ 36. _____

37. $3xy^3 - 6y^2 + 3xy$ 37. _____

38. $x^2 - 23x + 22$ 38. _____

39. $x^2 - 6x - 16$ 39. _____

40. $8a^2 - 10a - 7$ 40. _____

41. $5x^2 - 17x + 6$ 41. _____

42. $-5x^2 + x + 18$ 42. _____

43. Simplify $\sqrt{40}$. Leave as a simplified radical 43._____

44. Simplify $\sqrt{120}$. Leave as a simplified radical 44._____

45. Simplify $\sqrt{72}$. Leave as a simplified radical 45._____

46. Solve the equation $\sqrt{2z+9} - \sqrt{z+6} = 0$. Check your answer. 46. _____

47. The area of a rectangle is 112. The length is 7, and the width is $\sqrt{x}$. What is the value of *x*? What is the width of the rectangle? (Hint: The area of a rectangle is equal to length times width.)

47. _____

48. Find the equation of the line containing the point $(-3, -12)$ and having the slope of -4.

48. _____

49. Multiply: $(x-4)^3$ 49. _____

50. Simplify: $(2x+3)^2 + 2(x-4)^3$ 50. _____