Name _____

Honors Geometry Summer Packet

This packet should help you prepare for Honors Geometry at Trumbull High School. Please complete these problems before the first day of school. This packet is MANDATORY. The material within this packet will be assessed within the first week of school.

Simplify each expression.

1. $\dfrac{(-5)(-2)-4}{-4\left(\frac{1}{3}\right)}$

2. $\dfrac{\frac{4}{5}}{2-\frac{1}{3}}$

3. $\dfrac{\frac{x+2}{5}}{\frac{x+3}{10}}$

4. $\dfrac{3+\frac{2}{3}}{\frac{1}{2}-3}$

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

6. $(-x^2y)^3(2x^3y^2)^2$

7. $(-3x^3y^2)^3$

8. $3x(2xy)$

9. $3x(2x + y)$

10. $(2y - 3)(y + 7)$

11. $(3x + 5)(2x - 4)$

12. $(3a + 4b)(2a - 5b)$

13. $(2x - 5)^2$

14. $\dfrac{14x^2+42x-7}{7}$

15. $\dfrac{20x^2-20x-7}{5x}$

Solve for the variable.

16. $75=3(-6n-5)$

17. $-4x+2(5x-6)=-3x-39$

18. $-16+5n=-\dfrac{1}{2}(-6+8n)+3$

19. $12(2k+11)=12(2k+12)$

20. $4(-x-6)+3=-2(2x+14)+7$

21. $5(3z-7)=4(2z+7)$

22. $5-3(2n-3)=44$

23. $\frac{1}{3}(2x-4)+5=-\frac{2}{3}(x+1)$

24. $\frac{5}{x}=\frac{3}{2}$

25. $\frac{-4}{2r-9}=\frac{-16}{3r+14}$

26. $\frac{x}{x+5}=\frac{x-4}{x}$

27. $\frac{x-3}{x}=\frac{9}{10}$

28. $\frac{5x}{x-3}=\frac{4}{3}$

29. $2x-\frac{4}{3}y=8$ for y

30. $\frac{4}{7}(M+12)=D$ for M

31. $4x+3y=-20$ for y

32. $y=\frac{1}{3}x-10$ for x

Solve each system of equations.

33. $y = x - 3$
$x + y = 13$

34. $4(e + f) = 8(f - 4)$
$2(e - 1) = f - 15$

35. $2x - 3y = -1$
$y = x - 1$

36. $-7x - 2y = -13$
$x - 2y = 11$

37. $2x - 8y = 6$
$-5x - 20y = -15$

38. $3 + 2x - y = 0$
$-3 - 7y = 10x$

Solve each quadratic by factoring.

39. $y^2 - 9 = 0$

40. $w^2 + 3w = 10$

41. $3v^2 = v + 10$

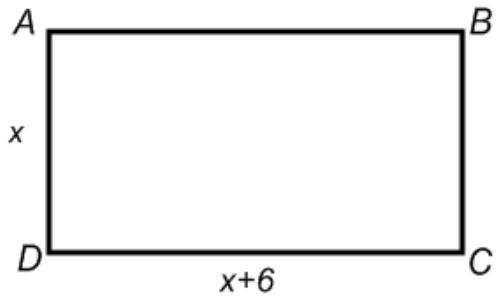
42. $x^2 - 15x = -50$

43. $3p^2 - 2p - 5 = 0$

44. $2x^2 + 11x + 5 = 0$

45. $7x^2 + 53x + 28 = 0$

Use rectangle *ABCD* to answer examples 42-46.



46. Write the equation that shows the perimeter of the rectangle is 48 inches.

47. Solve for *x.*

48. Find the area of the rectangle.

49. Based on the figure above, write the equation that shows the area of the rectangle is 72 square inches.

50. Find the dimensions of the rectangle based on your findings in #48.

For #51-53, solve by using a system of equations.

51. The sum of two numbers is 16. The greater of the two numbers is one more than four times the lesser number.

52. The width of a certain rectangle is 2 meters greater than half the length. Four times its length is 26 meters greater than its perimeter. What are the dimensions of the rectangle?

53. The length of a rectangular garden is three times the width. If the perimeter is 32 meters, what are the dimensions of the garden?