

GEOMETRY ESSENTIALS

Summer HW

Purpose: The purpose of this assignment is to provide you practice with the concepts you have learned in previous classes that you are expected to know how to do at the beginning of this class. If you have trouble with any section, please use your previous textbook or online materials for explanations and additional practice.

Instructions: You should attempt every problem and show your work. Circle your final answers. You are allowed to get help to better understand the concepts with the understanding that you will be required to show full understanding of the material throughout the year. The writing of the work you turn in should to be your own.

Grading: Your summer homework is graded on effort and completion. If work is not shown and/or the assignment is not completed on time, you will not earn full credit for the assignment. There will be a quiz within the first few meetings of the school year.

Detroit Country Day School

Summer Geometry Homework

Name: _____

Simplify each expression:

1. $x - 5 + x - 10$

2. $-5(1 - x) + 2x$

3. $-1 + 3(1 - 7y)$

4. $-6(x + 4) - 4((2 + 2x)$

Evaluate each expression:

5. $3\frac{3}{4} - 4\frac{4}{7}$

6. $4\frac{3}{5} + \left(-\frac{1}{2}\right)$

7. $\frac{2}{3} - \left(-\frac{2}{3}\right)$

8. $\left(-1\frac{9}{10}\right)\left(-\frac{3}{5}\right)$

Simplify each expression:

9. $12\sqrt{100}$

10. $4\sqrt{45}$

11. $3\sqrt{80}$

12. $4\sqrt{2} - 3\sqrt{2}$

13. $-4\sqrt{7} + 3\sqrt{7}$

14. $-\sqrt{12} + 3\sqrt{27} - \sqrt{3}$

15. $(x - 3)(2x + 7)$

16. $(5x + 1)(3x + 8)$

17. $\frac{3}{2} \div -9$

18. $4\frac{1}{10} \div \frac{13}{9}$

Solve each equation for x:

19. $180 = -6x$

20. $x + 27 = 56$

21. $-61 = \frac{x}{90}$

22. $-37 = x - 59$

23. $0 = 5(-3 + x)$

24. $17 - 7x = -193$

25. $\frac{x}{-35} + 17 = 18$

26. $-8 = 2x + 6x$

27. $-2(7x + 5) + x = 38 - 7x$

28. $3(6x + 5) = 3(1 + 5x)$

29. $\frac{x}{10} = -\frac{11}{7}$

30. $-\frac{12}{9} = \frac{x}{4}$

31. $\frac{x+11}{x+4} = -\frac{4}{8}$

Factor completely:

32. $x^2 + 8x + 15$

33. $x^2 - 9x + 14$

34. $x^2 + x - 56$

35. $x^2 - 9x - 36$

36. $6x^2 - 14x$

37. $10x^2 + 3x + 6$

Solve each system by elimination:

38. $-14x + 5y = -10$
 $7x + 8y = -16$

39. $9x + 10y = 21$
 $8x + 2y = -2$

Solve each system by substitution:

40. $-2x + y = -3$
 $2x + 2y = 6$

41. $x + 4y = 11$
 $-3x - 12y = -33$