

Detroit Country Day School

Summer Geometry Homework

Name: _____

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 start of Geometry. If you have trouble with any section, please use your previous textbook or online materials for explanations and additional practice.

Please show as much work as possible to support your answers. It is acceptable to work together with someone, but the work shown should be your own.

This packet will be due on the first day of class and will count towards your assignment category grade for Goal I. Assignments are graded on completion, effort, and following proper procedures. As Algebra lays the foundation of the course, it is important that you understand the concepts presented in this packet.

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:

$$38. \begin{aligned} -14x + 5y &= -10 \\ 7x + 8y &= -16 \end{aligned}$$

$$39. \begin{aligned} 9x + 10y &= 21 \\ 8x + 2y &= -2 \end{aligned}$$

Solve each system by substitution:

$$40. \begin{aligned} -2x + y &= -3 \\ 2x + 2y &= 6 \end{aligned}$$

$$41. \begin{aligned} x + 4y &= 11 \\ -3x - 12y &= -33 \end{aligned}$$