

Honors Geometry Summer Work Packet

Course Title: Honors Geometry

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Estimated Time for Completion: 4-6 hours

Objectives: The student should be able to.....

- a.) Add, Subtract, Multiply and Divide Rational Numbers without a calculator.
- b.) Solve multi-step linear equations.
- c.) Solve a proportion.
- d.) Find the slope of a line.
- e.) Write the slope-intercept equation of a line.
- f.) Graph a line in slope-intercept form.
- g.) Solve a system of equations.
- h.) Solve a quadratic equation using the Quadratic Formula.

Description of Activity: Students will solve review type problems from Algebra I. These algebraic skills are necessary to be successful in Honors Geometry. They will be used constantly throughout the year.

These Algebra topics will be discussed during the first week of class. An Algebra Topics test will be given after the first week. No calculator will be allowed. It will be worth approximately 50 points.

Evaluate each expression **WITHOUT A CALCULATOR!!!!**

1. $38 - (-17)$

2. $(-11) - (-14) + 7$

3. $(-0.8) + (-7.2) - 5.4$

4. $\frac{-3}{2} + \frac{8}{5}$

5. $\frac{-1}{5} - \frac{7}{4}$

6. $9 - 32 \div 4$

7. $40 \div 4 - (5 - 3)$

8. $\frac{43-1}{4+2} + 10$

9. $(2 + 6 \times 2 + 2 - 4) \times 2$

Evaluate each expression. Your answer should be in simplest form and written as a fraction.

NO CALCULATOR!

10. $\frac{5}{7} \times \frac{3}{15}$

11. $\frac{3}{8} \div \frac{9}{4}$

12. $3\frac{3}{4} \times 1\frac{1}{2}$

13. $6\frac{2}{3} \div 5\frac{4}{9}$

Simplify each expression. **NO CALCULATOR!**

14. $-6(a + 8)$

15. $(9m + 10) 2$

16. $-7(5k - 4)$

17. $-8(1-5x)$

18. $n - 10 + 9n - 3$

19. $12r + 5 + 3r - 6$

20. $-10(1 - 9x) + 6(x - 10)$

Solve each equation. Your answer should be in simplest form and written as a fraction, if necessary. Show all work. **NO CALCULATOR!**

$$21. -7x - 1 + x = \frac{1}{11}$$

$$22. \frac{7}{9} + x = \frac{-2}{3}x + \frac{19}{9}$$

$$23. \frac{-2}{7}(7x + 1) = \frac{40}{7}$$

$$24. 4\left(\frac{5}{9} - 6x\right) = \frac{-1276}{9}$$

$$25. \frac{x+2}{x-1} = \frac{3}{4}$$

$$26. \frac{4x-10}{6} = \frac{-5x+2}{7}$$

Find the slope of the line that passes through the following points. Your answer should be in simplest form and written as a fraction. If the line does not have a slope, then write "undefined".

27. (1,-19) and (-2,-7)

28. (20,8) and (9,16)

29. (9,3) and (20,3)

30. (8,5) and (8,10)

31. (16,7) and (13,2)

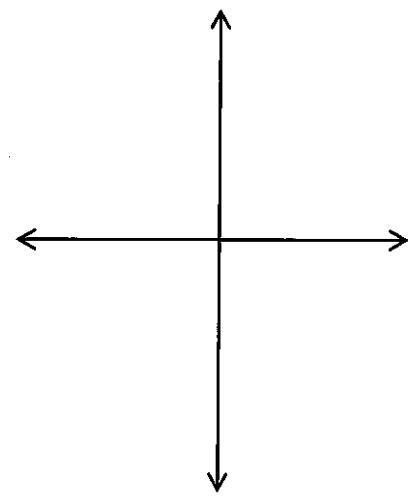
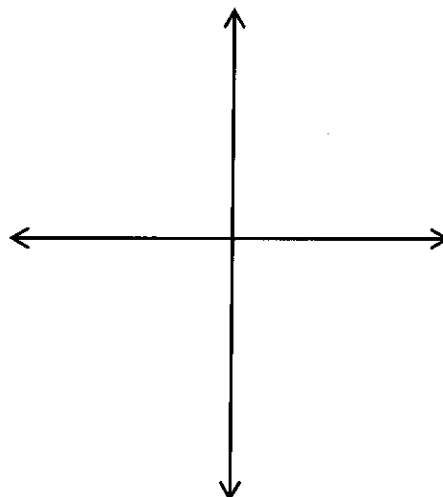
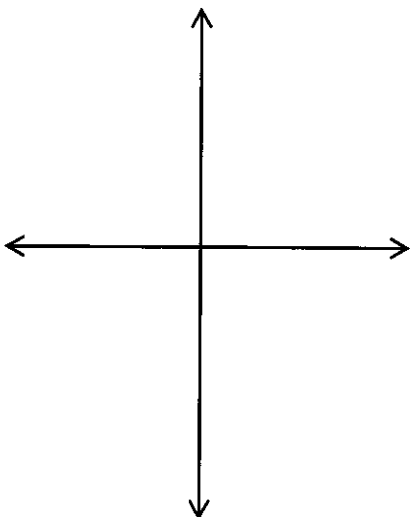
32. (-12,5) and (1,2)

Use a straightedge to graph each line.

33. $y = \frac{-1}{5}x - 3$

34. $y = 2x - 5$

35. $y = \frac{-5}{2}x$



Given two points, write the slope-intercept equation for each line. Each slope should be written as a fraction. Each y-intercept should be written in mixed number form, if necessary. Show all work. **NO CALCULATOR!**

36. $(9,3)$ and $(6,-1)$

37. $(-2,6)$ and $(4,0)$

38. $(-11,8)$ and $(3,-14)$

39. $(-4,2)$ and $(13,13)$

Solve each system of equations. Show all work. **NO CALCULATOR!**

40. $-x + 6y = -28$

$$x - 4y = 18$$

41. $5x - 5y = -5$

$$-9x + 5y = 21$$

42. $-8x - 2y = -6$

$$16x + 4y = 12$$

43. $10x - 5y = -15$

$$-2x + y = 5$$

44. $y = -3x + 5$

$$5x - 4y = -3$$

45. $y = 5x - 7$

$$-3x - 2y = -12$$

Solve each equation using the Quadratic Formula. Show all work. You may use a calculator. Round all answers to the nearest tenths place.

46. $x^2 - 5x - 14 = 0$

47. $b^2 - 4b + 4 = 0$

48. $x^2 + 4x + 3 = 0$

49. $4m^2 + 8m + 7 = 4$

50. $2x^2 - 7x - 13 = -10$