HONORS GEOMETRY
SUMMER ASSIGNMENT

The following exercises represent a review of Algebra 1 concepts essential for this course. The entire packet should be completed for the first day of school, as it will be collected then. While you will not be tested on these types of problems immediately upon your return to school, you will often see them incorporated throughout many of the Honors Geometry assessments. If you need help completing any of the problems, you may want to refer back to your notes from Algebra 1. There are also many tutorials online that may be very helpful to you as well.

Finally, you will be required to have the following items for this class:

- **Notebook of any type (for your notes and homework)**
- **Ruler, protractor, pencils, eraser**
- **Cover for your textbook**
- **Scientific calculator OR graphing calculator (Note: the PARCC Geometry exam uses an online version of a graphing calculator)**

I'm looking forward to meeting you in September! Have a wonderful summer!!

Mr. Lewis

NAME _____ **DATE** _____ **HONORS GEOMETRY SUMMER ASSIGNMENT**

Show all of your work!!!

Solve. Leave fractional answers in reduced, improper fraction form (not decimals).

1. $4x - 5 - 7x = 10$

2. $13x - 4 = 14 + 10x$

3. $6(4y - 2) = 18 + 6(y + 1)$

4. $10x - 4(2x + 9) = -8x - 6$

5. $\frac{1}{4}x + \frac{1}{8} = \frac{3}{4}x + \frac{3}{8}$

6. $\frac{4}{5}y - \frac{3}{4} = \frac{3}{10}y - 1$

Simplify completely.

7. $\sqrt{32}$

8. $\sqrt{75}$

9. $\sqrt{288}$

10. $\sqrt{48}$

11. $\sqrt{84}$

12. $\sqrt{117}$

13. $\sqrt{80}$

14. $\sqrt{147}$

Simplify completely by rationalizing the denominator.

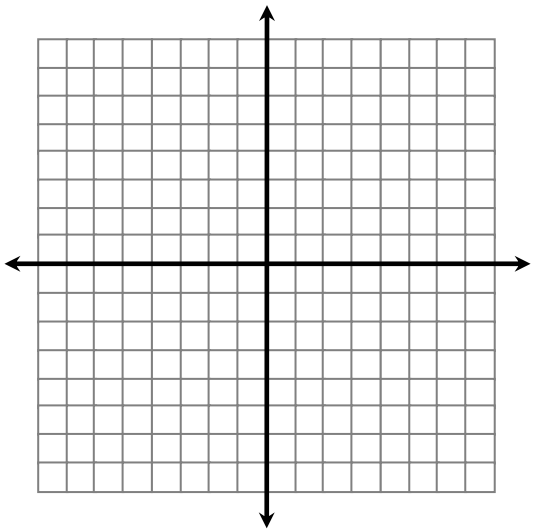
15. $\frac{7}{\sqrt{5}}$ **16.** $\frac{16}{\sqrt{2}}$ **17.** $\frac{9}{\sqrt{3}}$ **18.** $\frac{15\sqrt{2}}{\sqrt{6}}$

Use the graph to the right to plot the points. Label the points with its appropriate letter.

19. $A(2, 4)$ **20.** $B(-5, -1)$

21. $C(4, -6)$ **22.** $D(-1, 2)$

23. $E(0, -3)$ **24.** $F(5, 0)$



Tell which quadrant each point is located.

25. (9, 2) _____ **26.** (7, -3) _____ **27.** (-6, 1) _____ **28.** (-3, -11) _____

Find the slopes, if they exist, of the lines containing these points.

29. (9, 1) and (3, 4) **30.** (1, -1) and (4, 5)

31. (7, 8) and (-2, 8) **32.** (6, 2) and (6, -5)

Find the slope and the *y*-intercept.

33. $y + 2x = 4$ **34.** $4y - 6x = 2$

Write an equation of each line with the given point and slope. Express your answer in slope-intercept form.

35. point: (-3, 1); slope = -4

36. point: (-8, 2); slope = $\frac{3}{4}$

Write an equation of each line with the given points. Express your answer in slope-intercept form. (Hint: You need to find the slope first.)

37. (1, -4) and (-2, 8)

38. (3, 1) and (5, -3)

Solve the system of equations.

39. $y = x + 3$
$4x + y = 8$

40. $-4x + y = 4$
$4x + 4y = 26$

41. $3x + 4y = 1$
$x + 2y = 9$

42. $5x - 2y = 3$
$2x - 3y = 10$

Solve. You may have to use the Quadratic Formula for some of the problems.

43. $x^2 - 4x = 12$

44. $3x^2 - 2x = 5$

45. $5x^2 = 20$

46. $3x^2 - 27 = 0$

47. $x^2 - 2x = 4$

48. $3x^2 - 6x + 2 = 0$