Summer Assignment for incoming ALGEBRA I students – Greenwood Lakes Middle School

Name: _____

Command of the topics in this assignment are important to be successful in Algebra I. These problems should all be completed correctly (not attempted), and *all work must be shown*. It is your responsibility to know and understand these topics before the start of the school year. There is **NO CALCULATOR** to be used on this assignment. This assignment will be due the week of August 10th; a specific date will be given by your teacher.

Algebra 1 teaches students to think, reason, and communicate mathematically. Students use variables to determine solutions to real-world problems. Skills gained in Algebra 1 provide students with a foundation for subsequent math courses. Students use graphing as an essential tool in analyzing data and modeling functions to represent real-world applications. Students will be expected to use a calculator for some portions of the class, but calculators are prohibited for other portions. This assignment requires that **NO CALCULATOR** be used. We will use these topics within real-world context so students gain understanding of how math concepts can be applied in the real world.

Evaluate each expression.

1. $8-(-5)-3$
2. $-5-3+7-(-2)$
3. $\frac{7}{5}+\frac{2}{3}-\frac{7}{6}$
4. $\frac{5}{3}-(-\frac{11}{8})-\frac{1}{4}$
5. $7(-5)(-3)$
6. $(-9)(4)(2)$
7. $\frac{-9}{4}(-7)(\frac{1}{2})$
8. $\frac{1}{4}\div\frac{16}{9}$

Simplify each expression.

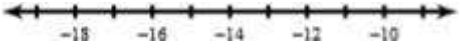
9. 4(r – 7)
10. y – 6 + 2 – y
11. 5n – 7n
12. 3(t – 4) + 5t

Solve each equation.

13. – 8 – 3x = – 20
14. $\frac{-9t}{14}=-2$
15. – 2(7m + 4) = – 88
16. – (x – 1) = – 2 (x + 3)

Solve each inequality and graph its solution.

17. 4x + 3 ≥ – 65



18. – 7(7y + 3) > – 413

19. Laura's pet snake is 4.3 meters long.

    How long is the snake in feet?

    (1 ft ≈ 0.3 m)

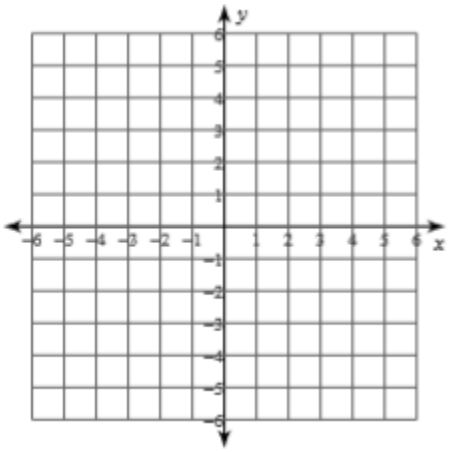
20. Tim walked 2.5 miles in 32.5 minutes.

    Find Tim's walking speed in kilometers per hour.

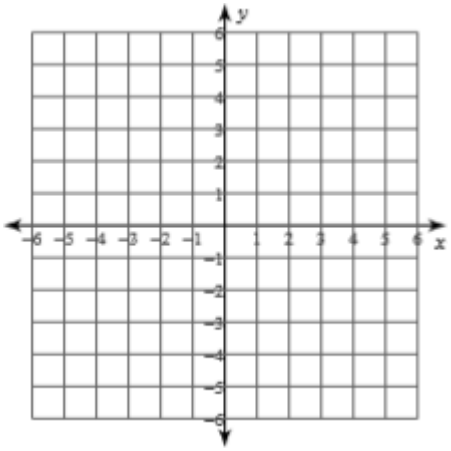
    (1 mi ≈ 1.61 km)

Graph each equation.

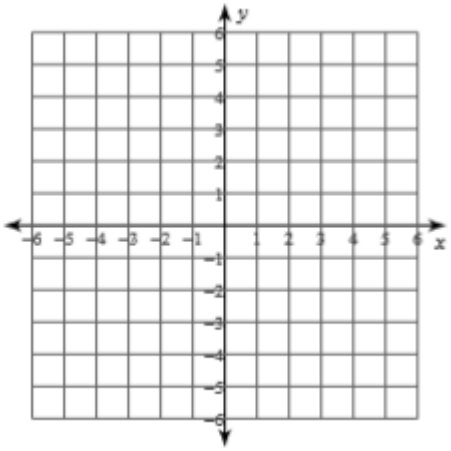
21. $y = -\frac{5}{2}x - 4$



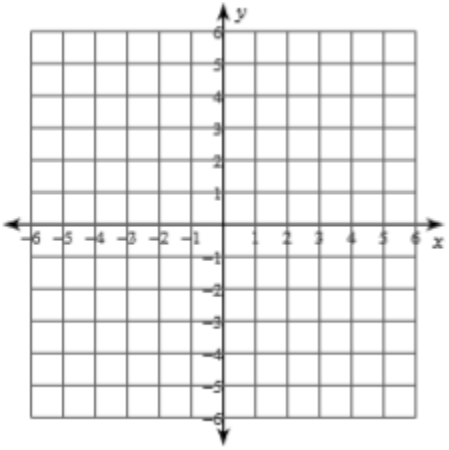
22. $x = -3$



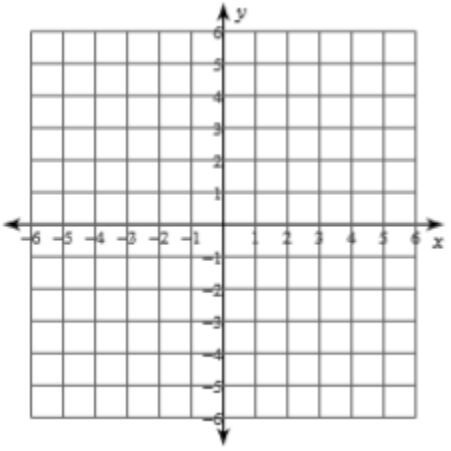
23. $3x - 4y = -12$



24. $y = 2^x$



25. $y = x^2 + 2$



Simplify. Answers should contain ONLY positive exponents

26. $x^4 \cdot 2x^4$

27. $(4m^3)^2$

28. $\frac{2x^3}{2x^4}$

29. $5q^2 \cdot 3q^0$

Evaluate.

30. $f(x) = 3x - 4$ for $f(-3)$

31. $f(x) = x^2 - 2x + 12 - 1$ for $f(4)$

Complete the following.

32. Find two integers that multiply to equal 24 and add to equal 10. _____ and _____

33. Find two integers that multiply to equal −4 and add to equal 3. _____ and _____

34. Find two integers that multiply to equal −25 and add to equal 0. _____ and _____

35. Find two integers that multiply to equal −12 and add to equal −4. _____ and _____

36. Find two integers that multiply to equal 20 and add to equal −12. _____ and _____