

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. $-2(7m + 4) = -88$

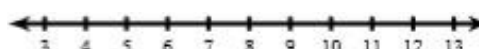
16. $-(x - 1) = -2(x + 3)$

Solve each inequality and graph its solution.

17. $4x + 3 \geq -65$



18. $-7(7y + 3) > -413$



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

How long is the snake in feet?

(1 ft \approx 0.3 m)

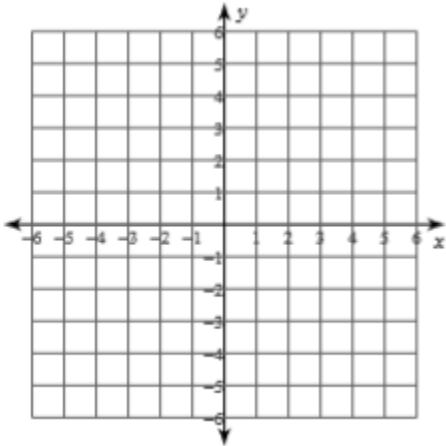
20. Tim walked 2.5 miles in 32.5 minutes.

Find Tim's walking speed in kilometers per hour.

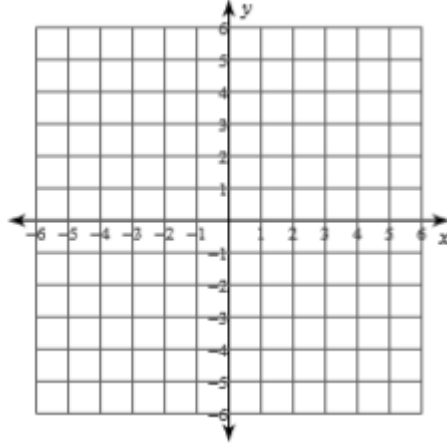
(1 mi \approx 1.61 km)

Graph each equation.

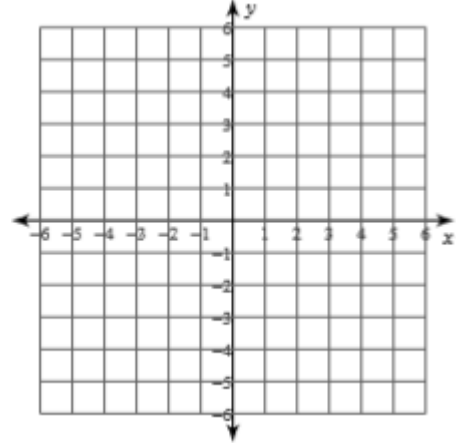
21. $y = -\frac{5}{2}x - 4$



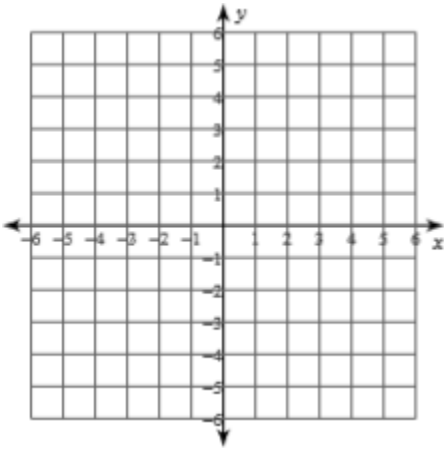
22. $x = -3$



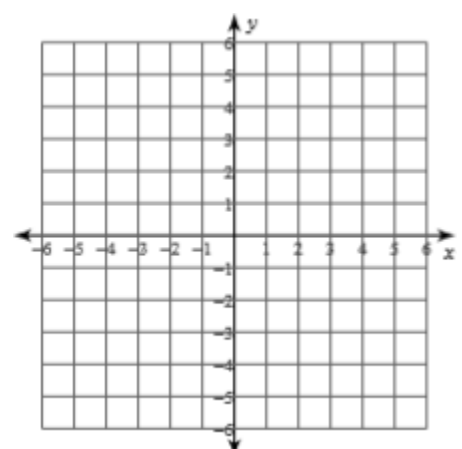
23. $3x - 4y = -12$



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 _____