Pre Algebra Summer Assignment
2021-2022 School Year

Directions: Complete the attached assignment.

The Knox School

Summer Assignment for Students Entering Pre-Algebra

Directions: You must show all your work. Likewise, calculators are forbidden.

This assignment is due on the very first day of school.

1. Write the number below in standard form.
   "Six hundred four thousand, seven hundred twenty-three."

2. A train traveled 1,568 miles nonstop, traveling 100 miles each hour except during the last hour of its trip. How many miles did it travel during that last hour?

3. Write an explanation of how you would compute the product $25 \cdot (12 \cdot 8)$ in your head.

4. Evaluate: 18 + (-23)

5. Evaluate: -4 - (-19)

6. Evaluate: -4(-11)

7. A plant manufactured 1,200 vehicles in 2009 and 900 vehicles in 2013. Find the average change in the number of vehicles manufactured ***each year.*** **Hint: Find the total amount of change first, then pay attention to the timespan that change took place in.**

8. By how much does 3^5 exceed 5^3?

9. Fill in the boxes with two consecutive numbers that make the statement true. **39 is between -** $\square^2$ and $\square^2$

10. Simplify the expression: $\dfrac{-6+(-3)\cdot 4^2}{12-(-6)}$

11. Evaluate: $(p+q^2)\div pq$ (if $p=7$ and $q=-5$)

12. Define the reciprocal and show an example.

13. Define divisor/factor and show an example.

14. Define "multiple" NOT multiply. Show an example.

15. Define a prime number and show an example.

16. Give the prime factorization of 960.

17. What is the greatest common factor of 42, 18, and 12?

18. What is the least common multiple of 4, 9, and 18?

19. Evaluate and simplify completely. Leave the answer as an improper fraction instead of as a mixed number. $1\frac{1}{2} - \frac{3}{8} \div 2\frac{1}{12}$

20. Write as an expression: Fourteen fewer than a number "k"

21. The temperature dropped 24 degrees in 8 hours. Write an expression with a variable to represent *the temperature change per hour*.

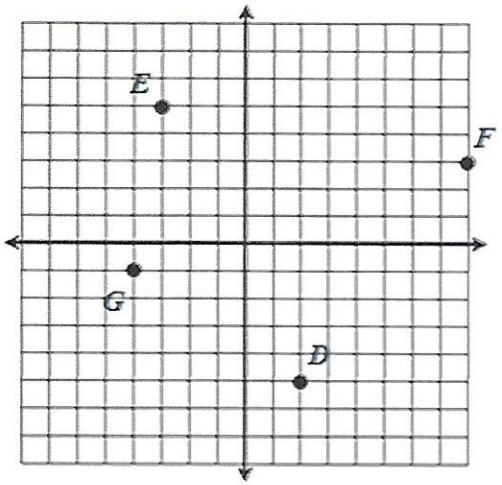
Use this image for questions 22-24.

22. Write the coordinates of each point on the graph as an ordered pair.

    E: F: G: D:

23. What point lies in Quadrant I?

24. What point lies in Quadrant III?



25. Combine like terms: $-17p + 2(5 - 3p)$

26. Combine like terms: $2(-8a + b) + 3(b - a)$

27. Solve for the variable using number sense or algebra: $x - 6 = -1$

28. Solve for the variable using number sense or algebra: $13 = r \div -3$

29. Translate into an inequality and solve: "One-third of a number is at most 12"

30. Place a <, >, or = symbol in the circle to make the statement true.

$|5|$ ◯ $|-16|$

31. Solve the inequality and graph it on a number line: $c-(-8) \leq 10$

32. Evaluate: 30 - .00032

33. Translate and evaluate the following expression: **"thirty-one thousandths divided by one-hundredth"**

34. Write as a simplified mixed number and also as a simplified improper fraction:
5.76

35. Write as a decimal, then convert to a percent:

$1\frac{3}{16}$