The following skills are recommended, self-guided, SUMMER WORK resources for all students scheduled to take **Pre-Algebra 7 or 8**. Please plan to spend some quality time this summer practicing these skills. We recommend you pace yourself and do not leave it all until the last week. Having your multiplication facts memorized is a MUST prior to the start of the school year and extra practice with fractions can't hurt!

Below is the list of recommended Khan Academy tutorials, the second page are the skills students should be proficient in by the first day of school. There will be an assessment of this material the first week of school.

https://www.khanacademy.org; click **COURSES** (upper left corner); click MATH, scroll down, and click **6TH** Grade

Student should complete the following categories/skills:
1. Ratios, rates, and percentages
    a. Intro to ratios
    b. Equivalent ratios
    c. Intro to rates
    d. Intro to percents
    e. Percent, decimal, and fraction conversions
    f. Percent problems
2. Arithmetic Operations (all skills) – KNOW YOUR MULTIPLICATION FACTS!
3. Negative Numbers (all skills)
4. Properties of Numbers (all skills)
5. Variables and Expressions Introduction
    a. Parts of Algebraic Expressions
    b. Substitution and evaluating expressions
    c. Writing algebraic expressions introduction
    d. Distributive Property with Variables
    e. Combining Like Terms
    f. Equivalent Expressions
6. Equations and Inequalities Introduction
    a. Algebraic equation basics
    b. One-step addition and subtraction equations
    c. One-step multiplication and division equations
    d. Finding mistakes in one-step equations
    e. Intro to inequalities with variables

Once your student has completed these, return to the Main **MATH** menu, Click **7th Grade** and complete the following:
1. Negative numbers: add and subtract (all skills)
2. Negative numbers: multiply and divide (all skills)
3. Fractions, decimals and percentages – converting fractions to decimals and adding and subtracting rational numbers
4. Expressions, equations, and inequalities
    a. Combining Like Terms
    b. The Distributive Property and Equivalent Expressions
    c. Two-Step Equations Intro
    d. One-Step Inequalities
    e. Two-step Inequalities

Student SUPPLIES NEEDED FOR Pre-Algebra 2024-25:   Text: Glencoe Pre-Algebra, ISBN: 0-07-822873-5, Graph Paper, Loose-leaf paper, pencils, 1-2'' Binder, pencils. If you are a rising 7th grader, please note the additional supplies required for Grade 7.

Teacher Wish List: loose-leaf paper, wide-tip black dry erase markers, and Lysol spray and/or wipes.

"An investment in knowledge always pays the best interest." - Benjamin Franklin

Fraction Operations:

1. Kelli spent $\frac{3}{8}$ hour studying for math and $\frac{3}{4}$ hour studying for Spanish. What was her total study time?

1. _____

2. What is the difference between $9\frac{5}{7}$ and $4\frac{3}{7}$

2. _____

3. What is the product of $4\frac{1}{2}$ and $2\frac{2}{3}$?

3. _____

4. There are $18\frac{2}{3}$ cups of juice to be divided among a group of children. If each child gets 2/3 cups of juice; how many children are there?

4. _____

5. There are $3\frac{3}{4}$ pies to be shared equally among 5 people. How much pie will each person get.

5. _____

Order of Operations and Like Terms:

6. $6 \bullet 8 - (9 + 12)$

6. _____

7. $7(2 + 6) - 18 \div 3?$

7. _____

8. Evaluate ab if a = $\frac{7}{8}$ and b = $\frac{2}{3}$

8. _____

9. What is the value of 2xy - x if x = - 3 and y = 1

9. _____

10. What is the value of   ab - 5   if a = - 7 and b = - 4?

10. _____

11. $\dfrac{1 + 3 \bullet 5}{2 \bullet 2}$

11. _____

12. Evaluate 9a - (4b + 2c) if a = 4, b = 2, and c = 3.

12. _____

13. Simplify the expression: 5(m + n) + 2(4n + 2m)

13. _____

Integers:

14. At noon the temperature was -3 degrees. If the temperature decreases
    9 degrees, what will the new temperature be?

    14. _____

15. A scuba diver is 84 ft below the surface when she begins to swim back up.
    She then stops to observe a school of fish at 39 ft below the surface of

    the water. How many feet did she rise before stopping?

    15. _____

16. Put the following integers in ascending order: -40, 39, -41, -39, 0, 41   16. _____

Rates and Percents:

17. Dr. John drove 384.2 miles on 17 gallons of gas. At this rate how many
    miles can he drive on 1 gallon of gas?

    17. _____

18. Four-fifths of the seventh graders have siblings. What percent of these
    students do not have siblings.

    18. _____

19. Suppose 65% of teenagers use their home computer for homework.
    What fraction of teenagers is this?

    19. _____

20. At Langley HS, 19% of the 2,200 students walk to school.
    How many students walk?

    20. _____

21. Which number is 124% of 260?

    21. _____

Solving Linear Equations: Solve for the missing value.

22. $22 + b = 34$

    22. _____

23. $x - 16 = 64$

    23. _____

24. $d - (-5) = 17$

    24. _____

25. $-4m = 24$

    25. _____

26. $3y + 24 = 30$

    26. _____

27. $36 - b = 20$

    27. _____

28. Seven less than four times a number is negative nineteen. What is the number?   28. _____

Functions and Input Rules:

29. Which is the output for the input - 1 using the function rule y = 2x - 3?   29. _____

30. Identify the function rule that relates the input & output values in the table: 30. _____

X	0	1	2	3	4
Y	1	3	5	7	9