

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 **6<sup>TH</sup> 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 **7<sup>th</sup> 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 7<sup>th</sup> 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*

Pre-Algebra Summer Work Assignment

Name: \_\_\_\_\_

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  $\frac{2}{3}$  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.  $6 \cdot 8 - (9 + 12)$  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.  $\frac{1 + 3 \cdot 5}{2 \cdot 2}$  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