Pre Algebra

Grade 6

Summer Packet

2023-2024

Completion is required for the first day of school in September.

Name: _____

Bergenfield Public Schools
Mathematics Department
80 South Prospect Avenue
Bergenfield, New Jersey
(201) 387-3850

June 2023

Dear Parents and Guardians:

Due to your student's hard work and strong mathematical understanding they have been scheduled to take Pre Algebra as a 6th grader. This Advanced Placement program has been designed with them in mind. We hope to challenge them to think critically and to apply all the skills they have acquired from grades K-5.

Attached are the summer curriculum review materials for *Pre Algebra 6.* This booklet was prepared by the Roy W. Brown Middle School Math Department and contains topics that reflect content learned in prerequisite courses. These materials must be completed and brought to class on the first day of school in September.

Your student is required to complete this booklet over the summer. Students will not be permitted to use calculators for these topics during the school year. Therefore, this packet should be completed without the use of a calculator.

Thank you for your cooperation.

Sincerely,

Shane Biggins   Steve Neff
Principal   Director of Mathematics/Science

Mathematics Department

Summer Course Work

Pre-Algebra 6

Topics

1. **Number Sense**
   a. Add, subtract, and multiply decimals
   b. Division with decimal quotients
   c. Convert between decimals and fractions
   d. Order fractions and decimals
   e. Add and subtract mixed numbers
   f. Multiply fractions and mixed numbers
   g. Prime and composite numbers
   h. Greatest common factor
   i. Least common multiple
   j. Equivalent fractions

2. **Expressions and Equations**
   a. Evaluate algebraic expressions with whole or rational numbers
   b. Write an algebraic expression

3. **Geometry**
   a. Graphing in quadrant one

All pages **MUST** show the work in order for the work to be accepted. If more paper is needed, the work may go on a separate page. This booklet must be kept <u>neat and in order</u> and is to remain in your math folder as a reference guide. If you require any help with the concepts, you can search the skill on www.khanacademy.org and watch a video on the topic.

Add, Subtract, and Multiply Decimals

65.24 + 72.11 =	34.12 + 0.9 =
There is 24.5 ounces of chicken stock in a pot. A chef pours 13.21 ounces of wate in the pot. How many ounces of liquid are now in the pot for the recipe?	
68.72 − 2.41 =	5.4 − 3.27 =
Jose had $5.75 for lunch money. If he spent $1.42 at snack time, how much money does he have left for lunch?	

195.2 x 0.03 =	67.41 x 4 =

Rapunzel's hair grows 1.23 feet each month. How long will her hair be after 15 months?

Division with Decimal Quotients

4.305 ÷ 5 =	6.08 ÷ 4 =

Convert between fractions and decimals

Fraction	Decimal		Fraction	Decimal
½			1 ¾	
	0.7			1.02
	0.65		8 ⅘	

Compare and order fractions and decimals

A geologist weighed four rocks, with these results: Rock A, 1.147 kg; Rock B, 1.15 kg; Rock C, 1.098 kg; Rock D, 0.884 kg. Order the rocks from heaviest to lightest.	Order the fractions $\frac{4}{5}$, $\frac{4}{11}$, $\frac{4}{7}$, and $\frac{4}{25}$ from greatest to least.
. $7\frac{1}{3} \bigcirc 7\frac{2}{7}$ (Use > or < to compare.)	$\frac{5}{21} \bigcirc \frac{3}{14}$ (Use > or < to compare.)
Order the numbers in each group from least to greatest. **a.** 76, 34, 85.2, 37.5, 34.8	Order from least to greatest. 5.78, 5.700.1, 5.701, 5.71, 5.7

Add and subtract mixed numbers

)$2\frac{1}{6} + 1\frac{1}{3}$	)$4\frac{4}{5} - 2\frac{1}{2}$

Freddy and Shranya went apple picking. Freddy picked 8 1/6 of a barrel of gala apples, and Shranya picked 14 7/8 of a barrel. How many more barrels did Shranya pick than Freddy?	

Multiply fractions and mixed numbers

$\frac{1}{6} \cdot \frac{2}{9}$	$8 \cdot \frac{3}{5}$
$3\frac{5}{7} \cdot 2\frac{3}{8}$	Larry has 6 hamsters. ⅔ of them are brown. How many of Larry's hamsters are brown?

Prime and composite numbers

Label each number as either prime or composite.

17	2	15	51
24	99	81	150

Greatest Common Factor

Find the GCF for each pair of numbers.

12 and 18	36 and 54	72 and 144

Least Common Multiple

Find the LCM for each pair of numbers.

12 and 18	2 and 17	6 and 15

Equivalent Fractions

Determine the equivalent fraction.

a. $\frac{10}{15} = \frac{?}{3}$ **b.** $\frac{3}{4} = \frac{21}{?}$ **c.** $\frac{?}{8} = \frac{35}{40}$

Write each fraction in simplest form.

14. $\frac{4}{24}$ **15.** $\frac{10}{18}$ **16.** $\frac{24}{30}$

Evaluate algebraic expressions

For Items 4–6, evaluate each expression for $n = 7$. **4.** $n + 9$ **5.** $(n - 3) \div 4$ **6.** $\frac{35}{n}$	Write an expression to represent the product of 15 and y. Evaluate your expression when $y = 3$.
Find the value of the expression $f - 7$ for $f = 8\frac{1}{3}$.	Find the value of the expression $w \cdot 1$ for $w = 0.4$.

Write an algebraic expression

Eleven more than a number	
A number decreased by 19	
Two more than a number squared	
A number divided by 6	
A number less 22	
Eight more than twice a number	
The product of a number and 26	
19 less than three times a number	

Graphing on the coordinate plane

Graph the following points below. A (1, 5) B(0,9) C (2, 7) D (4,4) E (6,0)