

HONORS ALGEBRA 1 SUMMER PACKET

Incoming Honors Freshman Students and Parents,

Ms. Kylee Murray and Mr. Eduardo Padilla would like to welcome you to Argo Community High School. As we look forward to meeting you and expanding your understanding of key algebraic concepts, we have compiled a set of exercises designed to aid you on your learning journey. We hope these exercises provide an opportunity to practice and recall some basic math skills you may have explored before. Completing these exercises will help you sharpen your skills and prepare for our class this coming August.

Grading: The packet will be collected by the end of the second week of the semester. The packet will count towards your grade. It is expected that you attempt each problem and **show work where possible**.

Quiz: You should expect a quiz by the end of the third week of the semester.

Questions: Please email one of the teachers listed below and they will respond to you as soon as possible.

Ms. Kylee Murray kmurray@argohs.net

A handwritten signature in black ink that reads "Kylee Murray". The script is fluid and cursive, with the first name "Kylee" being more prominent than the last name "Murray".

Mr. Eduardo Padilla epadilla@argohs.net

A handwritten signature in black ink that reads "E Padilla". The signature is written in a bold, cursive style, with the first letter "E" being very large and stylized.

Vocabulary

Directions: Read each definition. Circle the option that is an example of the vocabulary term.

Term	Definition	Example
Constant	A fixed value	a.) x b.) 6 c.) $3xy$
"squared"	The product of a number or variable with itself	a.) x^2 b.) $5 = 3$ c.) $\sqrt{36}$
Square root	The square root of a number is the factor that we can multiply by itself to get that number	a.) x^2 b.) $5 = 3$ c.) $\sqrt{36}$
solve	finding the value for a variable that would make the equation true	
Reciprocal	on-zero real number "n" is given by $1/n$	a.) -3 and 3 b.) $\frac{1}{2}$ and 2 c.) 1 and 0
Opposite	a number that when added to a, yields zero	a.) -3 and 3 b.) $\frac{1}{2}$ and 2 c.) 1 and 0
Inverse	operation that undoes what was done by the previous operation	a.) Addition and subtraction b.) Multiplication and addition c.) Division and subtraction

Reciprocals

Directions: Find the reciprocal of each number.

1.) $\frac{1}{2}$

4.) -3

2.) $-\frac{3}{5}$

5.) 1

3.) 8

Exponents

Directions: Simplify each expression completely.

1.) $6^2 =$

4.) $\left(\frac{5}{4}\right)^2 =$

2.) $3^3 =$

5.) $15^1 =$

3.) $\left(\frac{1}{2}\right)^2 =$

One-Step Equations

Directions: Solve each equation for x.

1.) $3 + x = 7$

4.) $x - 7 = 11$

2.) $6x = 12$

5.) $\frac{1}{2}x = 7$

3.) $\frac{x}{8} = 4$

Proportions

Directions: Solve each proportion for x.

1.) $\frac{x}{3} = \frac{20}{5}$

4.) $\frac{10}{4} = \frac{x}{4}$

2.) $\frac{7}{2} = \frac{x}{4}$

5.) $\frac{6}{7} = \frac{2}{x}$

3.) $\frac{5}{x} = \frac{2}{6}$

Rounding

Directions: Round each number to given value.

1.) 2.969 to the nearest tenth

4.) 0.9557 to the nearest hundredth

2.) 9.054 to the nearest hundredth

5.) 9.5 to the nearest whole number

3.) 0.43 to the nearest whole number

6.) -3.692 to the nearest tenth

Order of Operations

Directions: Use the order of operations to simplify the expression. Show work.

1.) $32 \div 8(4)$

4.) $-3^3 + 4[4 - 2(3)]^2$

2.) $2^4 - 5 \div \frac{5}{3} + 18$

5.) $1 - 2[17 - (3 - 5)^2]$

3.) $120 \div 3(16 + 2^2)$

Directions: Evaluate the expression. Show work.

1.) $\frac{m}{4} - n$ when $m = 2$ and $n = \frac{2}{3}$

4.) $y^2 - x$ when $x = -3$ and $y = -2$

2.) $\frac{12b}{a}$ when $a = 2.4$ and $b = 0.6$

5.) $-n^4$ when $n = -2$

3.) $x \div y$ when $x = -\frac{3}{2}$ and $y = -2$

Simplifying Expressions.

Directions: Simplify the expression. Write answers in standard form.

1.) $4x + 3 - x + 2$

4.) $2(a + 6)$

2.) $-12 + 9y - 17y$

5.) $-(49 - n)$

3.) $-30 + 25r + 55$

6.) $-8(b - 12) + 1$

The Coordinate Plane

Directions: Plot the points on the coordinate plane. Label each point.

1.) $A(2, -7)$

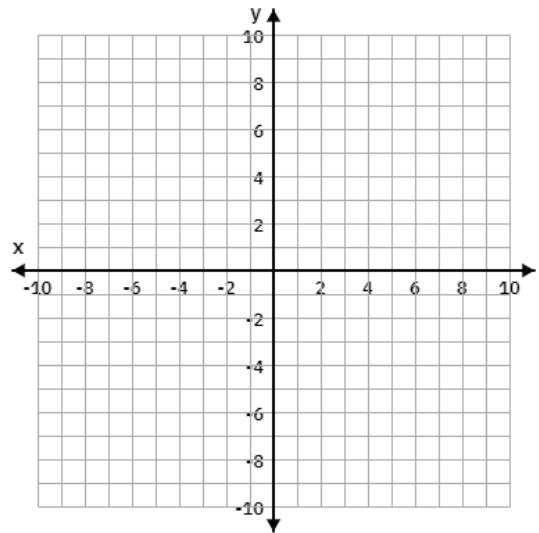
4.) $D(-1, 0)$

2.) $B(-9, 5)$

5.) $E(-6, -3)$

3.) $C(0, 8)$

6.) $F(10, 4)$



Directions: Without graphing, identify the quadrant or axis each point lies on.

1.) $(-10, -7)$

4.) $(1, 6)$

2.) $(4, -4)$

5.) $(5, 0)$

3.) $(0, -9)$

6.) $(-8, -3)$

Mean, Median, Mode, Range

Directions: Find the mean, median, mode, and range. Show work. Write answers in the tables.

- 1.) The following was the average life span for different animals. Find the mean, median, mode, and range for the data. Round to the nearest hundredth when necessary.

Animal	Years
Cottontail	10
Asian elephant	40
Leopard Frog	6
Rabbit	9
Pionus Parrot	15
Koala	8
Gouldian finch	6
Turkey Buzzard	118
Canada Goose	33

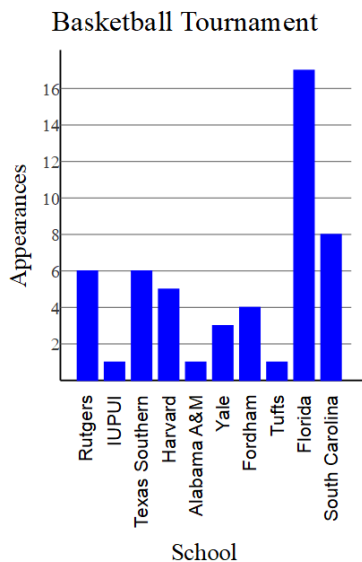
Mean:

Median:

Mode:

Range:

- 2.) The following was the number of times different schools appeared at a basketball tournament. Find the mean, median, mode, and range for the data. Round to the nearest hundredth when necessary.



Mean:

Median:

Mode:

Range: