Incoming Honors Freshman Students and Parents,

Mr. Ball and Mr. Bogdan would like to be one of the first to welcome you to Argo Community High School. Honors Geometry is an accelerated course and based on the limited time and the speed of the course, it is essential that incoming students are competent and comfortable in certain Algebraic areas. Therefore, we have compiled a set of questions designed to aide students in their understanding and prepare them for what it expected when school begins in August.

Grade 10%

Completion of packet = 5% of your semester grade Test over the packet = 5% of your semester grade

Due Date

The first full day of class in the fall

Test over packet material

Approximately one week following the due date

Questions

Please email one of the teachers below and we will get back to you as soon as we can. We are looking forward to meeting in the fall!

Contact information

Mr. Scott Ball sball@argohs.net

Mr. Lucian Bogdan lbogdan@argohs.net

We are looking forward to seeing you this fall,

Mr. Scott Ball

Mr. Lucian Bogdan

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Honors Algebra 1 / Honors Geometry Summer Packet

Variables, Function Patterns, and Graphs

	<u>Using Variables</u>			
Write	an algebraic expression for each phrase.			
1.	The sum of 9 and k minus 17			
2.	23 less than x			
3.	15 plus the quotient of 60 and w			
4.	9.85 less than the product of 37 and <i>t</i>			
Write	an algebraic expression for each phrase.			
5.	Fourteen is equal to the sum of a number and eight.			
6.	The difference of a number and two is nine.			
7.	Six more than the quotient of a number and five is ten.			
Find t	ne average speed for the given distance and time. In	clude units of measure in your answer.		
8.	A car travels 220 miles in 5 hours. $hint: r = \frac{d}{t}$			

Exponents and Order of Operations Simplify the expression.		
Evaluate the expressions for $m = 2$, $p = 7$, and $q = 4$.		
11. $\frac{16m+8}{10+m^2-q}$	12. $m(p^3 - q)$	

Exploring Real Numbers		
Find the absolute value.		
13 . 4	14. $\left -\frac{9}{14} \right $	
Use $<$, $=$, or $>$ to compare.		
15. -18 -17	16. $\left \frac{1}{2}\right = -0.51 $	

Simplify the expression. Absolute value symbols serve as grouping symbols. 17. $6|41-38|^2+8$

17.
$$6|41-38|^2+8$$

	Patterns and Functions	
Write a function for each rule.		

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	18.	Function:	

х	У
1	4
2	8
3	12
4	16

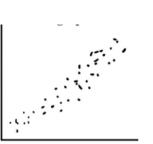
Х	У	
1	10	
2	16	
_		

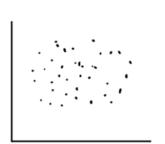
19. Function:

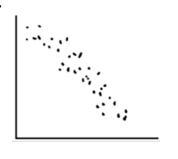
Scatter Plots

Would you expect a positive correlation, negative correlation, or no correlation from the data graphed?

20.







Rational Numbers (NO CALCULATOR)

Adding Rational Numbers

Find the sum.

23.
$$-7 + (-14) + 1$$

24.
$$\frac{3}{4} + \left(-\frac{1}{2}\right) + \left(-\frac{5}{8}\right)$$

Evaluate the expression for the given value of x.

25.
$$7 + x + (-3) + (-5)$$
 when $x = 5$

Subtracting Rational Numbers

Find the difference.

26.
$$-3 - 8 + 12$$

27.
$$-4 - (-9) - \frac{1}{3}$$

Evaluate the expressions for x = 3, y = -4, and z = 6.

28.
$$2x - z$$

29.
$$-z + y - x$$

Multiplying and Dividing Rational Numbers

Simplify the variable expressions.

30.
$$|(-7)(-m)^3(-m)^2|$$

31. a. $(-21)(-x)(x)(-x)$		b. —(—3	
32. a. $\frac{5}{\left(\frac{4}{9}\right)}$	b. $\frac{3}{8} \div \left(-\frac{2}{3}\right)$		C. $\frac{-\frac{5}{6}}{8}$
Evaluate the expression. 33. $-x^3 + 2x$ when $x = 5$		34. $-4(t^2-2 ^2)$	25) when t = -3
	The Distributi	ve Property	
Simplify using the distributive prop			
35. $12(3+n^2)$	36. (-2 - 3y)((-7y²)	37. $4x^3(5x^2-9)$
Simplify then combine like terms.			
38. $2(3a-5)-4a$		39. $-2t(t-5t)$	$(t^2) + (-5t^3)$

Simplify the expressions.			
40. $\frac{6}{7}n + n^3 - \left(-\frac{5}{6}n\right)$	41. $8m^2 - 5mn + 4mn - m^2 + 4$	42. $-(m+3)-2(m+3)$	
7 (6)			

Solving Equations

Solving One and Two-Step Equations		
Solve each equation. CHECK your a	nswer.	
43. $x - 15 = 6$	44. $-12 = 12 + x$	45. $-\frac{3}{4} = x + \frac{1}{2}$
46. $x - (-9) = -2.5$	47. $15 - (-x) = 23$	48. $\frac{5x}{2} = \frac{30}{7}$
Solve each equation. CHECK your a	nswer.	
49. $2n-5=7$	50. $-3 + \frac{m}{3} = 12$	51. $-x - 4 = -20$

52. $\frac{5}{7}x + \frac{1}{7} = 3$	53. $-10t - 4 = -30$	54. $\frac{a}{4} - 21 = 7$
55. $-\frac{1}{5}t - 2 = 4$	56. $\frac{-y}{2} + 14 = -1$	57. $0.4x + 9.2 = 10$
Solve each equation. (Hint: As your	first step, multiply each side by the	denominator of the fraction.)
58. $\frac{x+2}{9} = 5$	59. $\frac{x-3}{7} = 12$	60. $\frac{x+6}{4} = -7$
9	,	4

Solving Multi-Step Equations Solve each equation.				

64. $\frac{a}{7} - \frac{5}{7} = \frac{6}{7}$	65. $\frac{2}{3} + \frac{3k}{4} = \frac{71}{12}$	66. $15 = -3(2q - 1)$
67. 7.8 <i>y</i> + 2 = 165.8	68. $0.25m + 0.1m = 9.8$	69. $\frac{1}{4}(m-16)=7$
70 2 4 ^a 3	71. $26.54 - p = 0.5(50 - p)$	72. $8y - (2y - 3) = 9$
70. $2 + \frac{a}{-4} = \frac{3}{5}$	71. $20.34 - p = 0.3(30 - p)$	72. $6y - (2y - 3) = 9$
73. $-(z+5) = -14$		

Equations with Variables on Both Sides

Solve each equation. If you get the answer 0=0, then write *all real numbers*. If you get an answer such as 0=1 or 4=8 then write *no solutions*.

74.
$$-8x - 70 = 6x$$

75.
$$-3 - (-4x) = -4x + 5$$

76.
$$3(2x-9)=6x-27$$

77.
$$x + 4 = x - 8$$

78.
$$-(10-x) = 3(x+4)$$

79.
$$\frac{4}{5}x - 7 = \frac{4}{5}x + 14$$

80.
$$-2(1+4x) = -2-4x$$

81.
$$a - 4a = 2a + 1 - 5a$$

82.
$$6b + 14 = -7 - b$$

83.
$$-2(x-1)-5=-(2x+3)$$

84.
$$7 + \frac{2}{3}y = \frac{1}{6}y - 5$$

85.
$$\frac{3}{4} \left(\frac{8}{3} x - 8 \right) - 3 = \frac{1}{2} (4x + 6)$$

Ratios and Proportions				
Solve.				
86.	$\frac{5}{6} = \frac{c}{9}$	87. $\frac{8}{d} = -\frac{12}{30}$	88. $\frac{x+3}{4} = \frac{7}{8}$	
89.	$\frac{8}{b+10} = \frac{4}{2b-7}$	90. $\frac{m+12}{9m} = \frac{5}{9}$	91. $\frac{p}{20} = \frac{p-4}{5}$	
		Equations and Problem Solving		
Write	and solve an equation for the	ne scenarios described below.		
		za slices and you paid \$3.30 as your shar	e of the cost. How much did the whole	
93.	3. The length of a rectangle is 6 inches more than its width. The perimeter of the rectangle is 24 inches. What is the length of the rectangle?			