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**Algebra 1 Summer Packet
Holmdel High School**

This packet must be completed the summer before entering Algebra 1. These skills are necessary for a successful year in the Algebra 1 course. **All work must be shown in the completion of this packet.** All problems must be completed and it will be due the first day of school.

PART A (ROUNDING): Round each number to the specified place value.

1.) Nearest whole number:

a.) 432.61	b.) 89.58	c.) 871.24	d.) 3.19
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2.) Nearest tenth:

a.) 46.287	b.) 2.954	c.) 14.345	d.) 6.024
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3.) Nearest hundredth:

a.) 4.267	b.) 68.973	c.) 52.194	d.) 15.595
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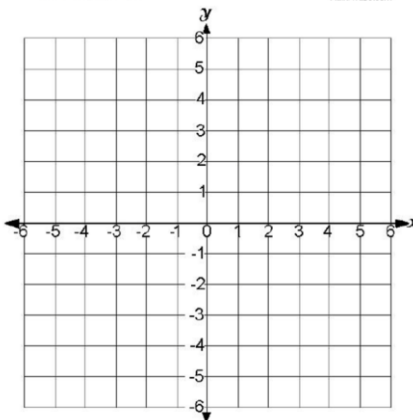
PART B (EXPONENTS): Write in expanded form. Then evaluate.

4.) 2^4	5.) 3^5	6.) $\frac{10^3}{20}$
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PART C (PLOT POINTS): Plot the points on the coordinate plane. Label each point.

- a.) (4, 6)
- b.) (4, -3)
- c.) (6, 0)
- d.) (-1, 2)
- e.) (-3, -3)
- f.) (-2, 5)
- g.) (4, 1)
- h.) (-1, -5)
- i.) (3, -2)
- j.) (0, -4)

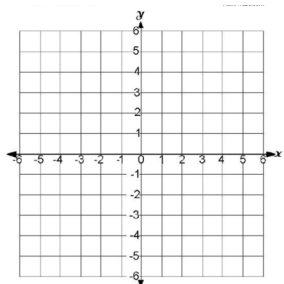
7.)



PART D (GRAPH USING A TABLE): Complete the table of values. Then graph each function.

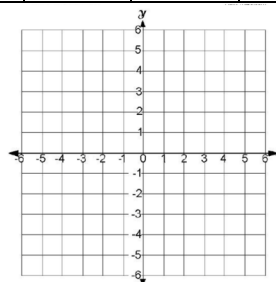
8.) $y = 2x - 3$

x	-2	-1	0	1	2
y					



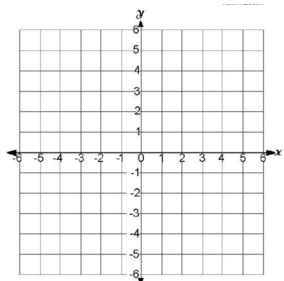
9.) $y = -3x + 2$

x	-2	-1	0	1	2
y					



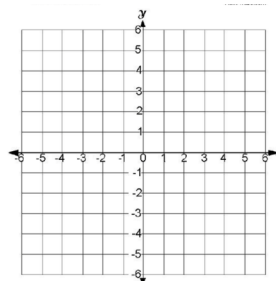
10.) $y = \frac{1}{2}x - 4$

x	-4	-2	0	2	4
y					



11.) $y = -\frac{1}{3}x + 1$

x	-6	-3	0	3	6
y					



PART E (GCF/LCD): Find the greatest common factor (GCF) or least common multiple (LCM) of each set of numbers. Use a factor tree to help you.

12.) GCF of 54 and 81	13.) GCF of 48 and 96
14.) LCM of 24 and 40	15.) LCM of 36 and 48

PART F (INTEGER OPERATIONS): Simplify.

16.) $(-12) + (-25)$	27.) $-18 + 8$	18.) $(-13) - (-21)$
19.) $(-28) - 14$	20.) $11 - 27$	21.) $(-18) \cdot 7$

22.) $(-21)(-15)$	23.) $60 \div (-4)$	24.) $(-24) \div (-4)$
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PART G (SIMPLIFY EXPRESSIONS): Distribute and combine like terms to simplify the expression.

25.) $1 - 4x + x + 8$	26.) $b - 5 - 5b - 6$
27.) $2(1 + 4r)$	28.) $-9(7 + 6x)$
29.) $-3n + 10(2 - 5n)$	30.) $8(7 + 5a) + 1$
31.) $-3(n - 3) - 9(1 - 6n)$	32.) $2(2k - 7) + 7(1 + 3k)$

PART H (SOLVE EQUATIONS): Solve each equation.

33.) $-46 = k - 75$	34.) $16 + n = 22$
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$$35.) -210 = -15n$$

$$36.) -8 = \frac{a}{27}$$

$$37.) \frac{5}{6}k = 20$$

$$38.) -54 = \frac{9}{2}b$$

$$39.) \frac{c}{26} - 5 = -6$$

$$40.) 17 = 16 + \frac{x}{12}$$

$$41.) 208 = 8 - 8j$$

$$42.) 3p - 15 = 69$$

$$43.) \frac{17+n}{4} = 10$$

$$44.) 9 = \frac{m+3}{4}$$

PART I (SOLVE PROPORTIONS): Solve each proportion by taking the cross-product. Round to the nearest hundredth, if necessary.

45.) $\frac{9}{5} = \frac{4}{m}$	46.) $\frac{6}{2} = \frac{14}{t}$
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PART J (PERCENTS): Use $\frac{\text{is}}{\text{of}} = \frac{\%}{100}$ to find the missing part.

47.) What is 140% of 26?	48.) 12% of 87 is what?	49.) 36 is what percent of 127?
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PART K (EVALUATING EXPRESSIONS): Translate each verbal phrase into an algebraic expression. Use n as your variable.

50.) $ xy - 6$ when $x = 3$ and $y = -5$	51.) $x(y - y^2)$ when $x = -1$ and $y = -6$	52.) $x + \frac{x - y}{3}$ when $x = -6$ and $y = 3$
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PART L (WRITE ALGEBRAIC EXPRESSIONS): Translate each verbal phrase into an algebraic expression. Use n as your variable.

53.) Seven less than four times a number: _____

54.) Three times the sum of twelve and a number: _____

PART M (ORDER OF OPERATIONS): Use the order of operations (PEMDAS) to simplify each expression.

55.) $20 - 5 \cdot 2 - (6 + 2) \cdot 7$

56.) $10(\sqrt{9} - 6^2) + 8 \cdot 2$

57.) $162 - 6(7 - 4)^2 \cdot |-3|$

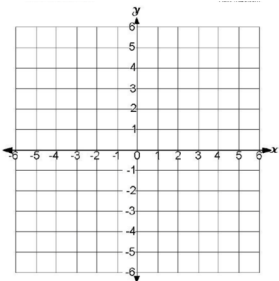
58.) $\frac{5 + \frac{1}{2}30 - (8 - 1)^2 \cdot 0}{11 - (\sqrt{20 - 4})}$

PART N (FRACTION OPERATIONS): Add, subtract, multiply, or divide. Write your answer in simplest form. **SHOW ALL WORK.**

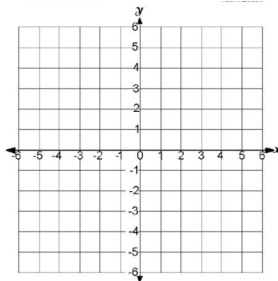
59.) $\frac{5}{9} + \frac{11}{15}$	60.) $\frac{2}{3} + \frac{7}{11}$
61.) $\frac{3}{4} - \frac{7}{10}$	62.) $\frac{9}{13} - \frac{1}{3}$
63.) $\frac{5}{7} \cdot \frac{4}{15}$	64.) $\frac{3}{10} \cdot \frac{6}{27}$
66.) $\frac{11}{6} \div \frac{33}{4}$	67.) $\frac{11}{6} \div \frac{33}{4}$

PART O (GRAPH LINES): Graph each line in slope-intercept form. Identify the slope and y-intercept.

68.) $y = x - 5$



69.) $y = -2x + 3$



70.) $y = \frac{3}{4}x - 2$

