

HONORS

Name \_\_\_\_\_

**Algebra 1 HONORS: Summer Assignment**

**Part I: Vocabulary**

Definition:	Example:
1. Integer	
2. Reciprocal	
3. Natural Numbers	
4. Whole Numbers	
5. Rational Numbers	
6. Irrational Numbers	
7. Real Numbers	
8. Coordinate	

**Classify the following real numbers as rational or irrational:**

a. $\frac{5}{22}$
b. $\sqrt{81}$
c. $\sqrt{56}$
d. $\frac{8}{3}$
e. $\sqrt{22}$

**Part II: Order of Operations**

1. $21 \cdot 3 + 4$	2. $100 - 15 \cdot 3$	3. $4^2 - 2 \cdot 3$
4. $2[3 - (4 \cdot 5)]$	5. $5(8 - 6 \div 2)$	6. $10^2 \div 5^2$

Evaluate each expression if:  $a = 2$ ,  $b = 3$ , and  $c = 4$

1. $a + b - c$	2. $a^2 - c$
3. $b + c - a$	4. $(b \cdot c) \div a$

**Part III: Integer Operations**

1. $-2 + 8$	2. $-9 - 11$	3. $12 - (-6)$	4. $7 + (-19)$
5. $12 - 25$	6. $-4 + (-11)$	7. $\frac{-45}{9}$	8. $8 \cdot 12$
9. $-13 \cdot 0$	10. $\frac{18}{0}$	11. $\frac{0}{6}$	12. $-4 \cdot 14$

**Part IV: Conversion Table (Fractions/Decimals/Percents)**

Fraction	Decimal	Percent
$\frac{1}{2}$		
	0.25	
		75%
$\frac{1}{3}$		
	2.5	
		150%

**Part V: One-step Equations** – Solve for the value of the variable.

1. $x + 3 = 12$	2. $x - 6 = -3$	3. $x - 15 = -23$	4. $12 + x = 19$
5. $12x = 108$	6. $-4x = 48$	7. $-90 = -5x$	8. $3m = -39$
9. $-11 = \frac{x}{2}$	10. $21 = \frac{x}{3}$	11. $\frac{x}{7} = 8$	12. $\frac{x}{4} = -2$
13. $9 - x = -32$	14. $-8 - x = -13$	15. $x - (-8) = 1$	16. $x - (-13) = 17$

**Part VI: Percent Proportions** Use the following equation:  $\frac{\text{is}}{\text{of}} = \frac{\%}{100}$  (cross multiply)

1. What is 10% of 200?	2. Find 15% of 50/	3. What percent of 100 is 4?
4. What percent of 20 is 5?	5. What percent of 75 is 25?	6. 8 is what percent of 199?

**Part VII: Reduce Fractions**

1. $\frac{2}{4}$	2. $\frac{18}{32}$	3. $\frac{6}{10}$	4. $\frac{9}{27}$
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### Part VIII: Fraction Operations

1. $\frac{2}{5} + \frac{1}{5}$	2. $\frac{2}{3} + \frac{5}{2}$	3. $\frac{2}{3} - \frac{2}{7}$	4. $-\frac{13}{7} - \frac{7}{6}$
5. $8 \cdot \frac{3}{5}$	6. $-\frac{2}{9} \cdot \frac{3}{4}$	7. $\frac{3}{5} \div \frac{2}{3}$	8. $\frac{11}{7} \div \frac{8}{7}$

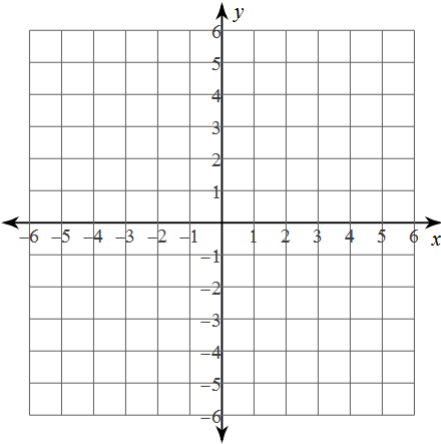
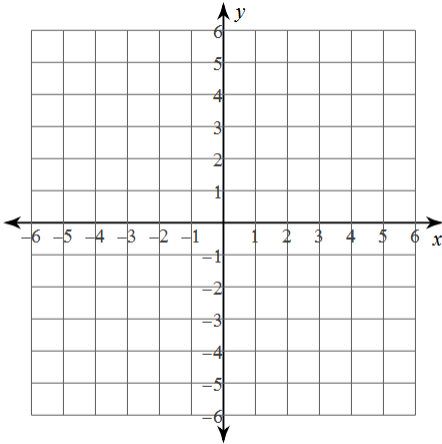
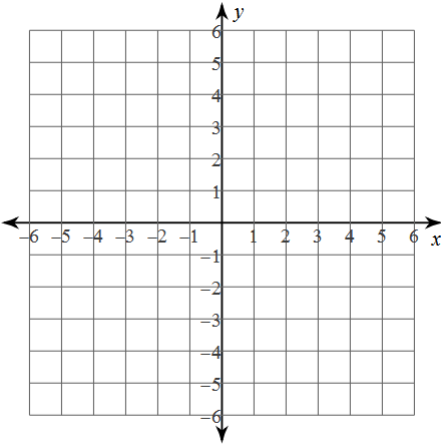
### Part IX: Word Problems

1. The original price of a television is \$500. You have a coupon for 25% off. Excluding tax, what is the cost of the TV?
2. There are 32 students in the class. Five-eighths of the students are girls. How many boys are in the class?
3. If six turkey club sandwiches cost \$24, how many would 8 sandwiches cost?
4. The sum of 19 and 42 and a number is equal to 87. What is the number?

**Part X: Translations:** Write a math express for each verbal expression.

1. The sum of 12 and x	2. The product of 25 and p	3. 24 increased by twice a number z
4. The quotient of a number x and 4	5. 6 less than a number x	6. One-half of n squared

**Part XI: Graphing Lines**

1. $y = 3x - 1$ 	2. $y = 6x - 2$ 
3. $y = -x + 2$ 	4. $y = \frac{-2}{5}x + 5$ 