Neshaminy School District
Langhorne, Pennsylvania

SUMMER MATH PACKET
for students entering
7th or 8th Grade Algebra 1

- Do not use a calculator
- Show all work
- Packets will be collected the 1st week of school.
- When you have completed problems 1 – 120, transfer your answers to page 13 of the packet (*last page*).

Name: _____

June 2012

ADDING AND SUBTRACTING POSITIVE AND NEGATIVE NUMBERS

Evaluate each expression.

1.	$3 - (-8) =$ _____	2.	$(-8) - (-2) =$_____
3.	$(-27) - 24 =$ _____	4.	$(-11) - 8 + 1 - (-6) =$ _____
5.	$\left(-\frac{3}{2}\right) + \frac{8}{5} =$ _____	6.	$(-7) - (-2) - 9 =$ _____
7.	$10 - (-10) - 7 - 5 =$ _____	8.	$\frac{2}{5} - \frac{4}{5} =$ _____

ADDING POSITIVE AND NEGATIVE NUMBERS

Find each sum.

9.	$(-7) + 9 =$ _____	10.	$(-4.7) + 5.7 =$ _____
11.	$2 + \left(-\frac{1}{4}\right) =$ _____	12.	$(-5) + (-8) + (-2) + 1 =$ _____

13.	$(-5) + (-7.1) =$ _____		
MULTIPLYING AND DIVIDING POSITIVES AND NEGATIVES Find each quotient.			
14.	$48 \div 6 =$ _____	15.	$-85 \div (-17) =$ _____
16.	$-180 \div (15) =$ _____	17.	$9\,(-7) =$ _____
18.	$6\ (-5)\ (+3) =$ _____	19.	$8\,(-6)\,(-3) =$ _____
20.	$-12 \div 12 =$ _____	21.	$12 \div (-3) =$ _____
22.	$234 \div (-13) =$ _____		

Find each product.

23.	$-6\ (+4) =$ _____	24.	$-9\ (-3) =$ _____
25.	$-3\ (+6)\ (-6) =$ _____		

VARIABLE AND VERBAL EXPRESSIONS

Write each as an algebraic or verbal expression.

26.	u decreased by 17 _____	27.	x increased by 6 _____
28.	twice q _____	29.	$\frac{x}{2}$ _____
30.	half of 14 _____	31.	the product of x and 7 _____
32.	n cubed _____	33.	5n _____
34.	the quotient of x and 8 _____	35.	10 less than 17 _____

EVALUATING EXPRESSIONS

Evaluate each using the values given.

36.	$p^2 + m$; Use m = 1, and p = 5 _____	37.	$m + p \div 5$; Use m = 1, and p = 5 _____
38.	$z(x + y)$; Use x = 6, y = 8, and z = 6 _____	39.	$p^2\ m \div 4$; Use m = 4, and p = 7 _____
40.	$z - (y \div 3 - 1)$; Use y = 3, and z = 7 _____	41.	$a - 5 - b$; Use a = 10, and b = 4 _____
42.	$y^2 - x$; Use x = 7, and y = 8 _____	43.	$x + y + y$; Use x = 9, and y = 10 _____
44.	$y - (z + z^2)$; Use y = 10, and z = 2 _____	45.	$2(p + 4) - (m + n)$; Use m = 4, n = 2, and p = 5 _____
46.	$pn + (n + m)^2$; Use m = 1, n = 4, and p = 6 _____	47.	$y - z + xz \div 6$; Use x = 3, y = 4, and z = 4 _____

48.	$c\frac{bc}{4}-(7-a)$ Use a = 4, b = 8, and c = 5 _____	49.	$(a^2 - b) \div 6$; Use a = 5, and b = 1 _____
50.	$x^3 \div 3 - y$; Use x = 3, and y = 1 _____		
ORDER OF OPERATIONS Evaluate each expression.			
51.	$20 \div (4 - (10 - 8)) =$ _____	52.	$7 + 10 \times 5 + 10 =$ _____
53.	$(6 - 4) \times 49 \div 7 =$ _____	54.	$\frac{43-1}{4+2} + 10 =$ _____
55.	$8\times\frac{15}{5}-(5+9)=$ _____	56.	$(2 + 6 \times 2 + 2 - 4) \times 2 =$ _____
57.	$2 + 7 \times 5 =$ _____	58.	$9 - 32 \div 4 =$ _____
59.	$\frac{45}{8(5-4)-3}=$ _____	60.	$\frac{49}{7}\times\frac{60}{2\times5}=$ _____

61.	$-6k + 7k =$ _____	62.	$5n + 11n =$ _____
63.	$12r + 5 + 3r - 5 =$ _____	64.	$-4x - 10x =$ _____
65.	$-2x + 11 + 6x =$ _____	66.	$n + 4 - 9 - 5n =$ _____
67.	$-3x - 9 + 15x =$ _____	68.	$-16n - 14n =$ _____
69.	$-4 + 7(1 - 3m) =$ _____	70.	$4n - n =$ _____

USING THE DISTRIBUTIVE PROPERTY

Simplify each expression.

71.	$-6(a + 8) =$ _____	72.	$(1 - 7n)5 =$ _____
73.	$-4(-8x - 8) =$ _____	74.	$5(n + 6) =$ _____
75.	$3(5 + 5x) =$ _____	76.	$(9m + 10)2 =$ _____
77.	$8(-b - 4) =$ _____	78.	$(-6p + 7)(-4) =$ _____
79.	$-6(7 + x) =$ _____	80.	$-8(1 - 5x) =$ _____

ONE-STEP EQUATIONS WITH INTEGERS

Solve each equation.

81.	$-40 = -5p$ _____	82.	$\frac{x}{5} = 2$ _____
83.	$-13m = -377$ _____	84.	$-19 = b - 6$ _____
85.	$\frac{x}{15} = 11$ _____	86.	$k + 1 = -27$ _____
87.	$\frac{x}{1.2} = -7$ _____	88.	$n - 25.4 = -44.8$ _____
89.	$n + 4.7 = -4.7$ _____	90.	$28.8 = 18x$ _____

PROPORTIONS

State if each pair of ratios forms a proportion.

91.	$\frac{4}{3}$ and $\frac{16}{12}$ _____	92.	$\frac{4}{3}$ and $\frac{8}{6}$ _____

Solve each proportion.

93.	$\frac{10}{k}=\frac{8}{4}$ _____	94.	$\frac{m}{10}=\frac{10}{3}$ _____
95.	$\frac{8n}{8}=\frac{8}{3}$ _____	96.	$\frac{p}{8}=\frac{13}{2}$ _____
97.	$\frac{v}{12}=\frac{10}{2}$ _____	98.	$\frac{6}{a}=\frac{3}{8}$ _____
99.	$\frac{3}{13}=\frac{v}{3}$ _____	100.	$\frac{6}{14}=\frac{5}{n}$

Find each unit rate.

101.	$525 for 20 hours work _____

Find each unit price and tell which is the better buy.

102.	$7.47 for 3 yards of fabric $11.29 for 5 yards of fabric _____
103.	Tyler scored 21 goals in 7 soccer games. At this rate, about how many did he score each game? _____
104.	Georgia drove a total of 252 miles and used 12 gallons of gasoline. Whit is this rate in miles per gallon? _____

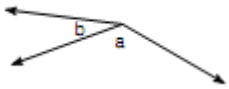
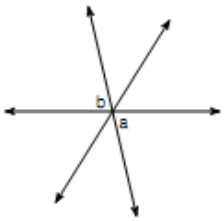
PERCENT WORD PROBLEMS

Solve each problem

105.	46 is what percent of 107? _____	106.	What is 270% of 60? _____
107.	87% of 41 is what? _____	108.	81 is 56% of what? _____
109.	17% of what is 156? _____	110.	25 is what percent of 37? _____

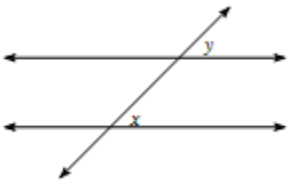
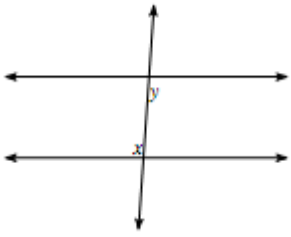
ANGLE PAIR RELATIONSHIPS

Name the relationship: complementary, vertical, adjacent, corresponding alternate interior, alternate exterior

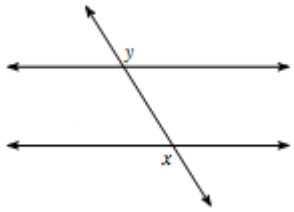
111.	 _____	112.	 _____

PARALLEL LINES AND TRANSVERSALS

Identify each pair of angles as corresponding, alternate interior or alternate exterior.

113.	 _____	114.	 _____

115.

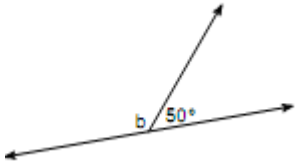


_____

ANGLE PAIR RELATIONSHIPS

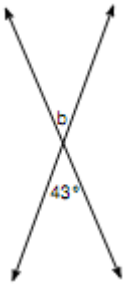
Find the measure of angle b.

116.



_____

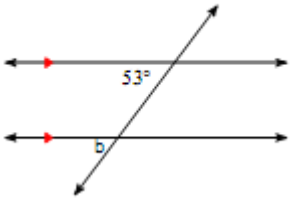
117.



_____

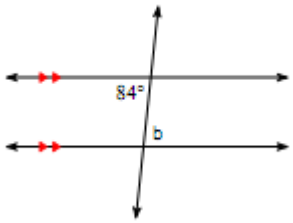
Find the measure of each angle indicated.

118.



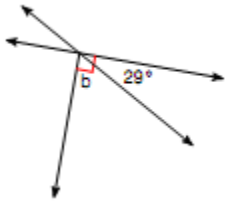
_____

119.



_____

120.



_____

121. **FRACTION TO DECIMAL TO PERCENT CHART**

Fraction in simplest form	Decimal	Percent
1/10		
	0.125	
		20%
	0.25	
3/10		
1/3		
		37.5%
	0.4	
		50%
3/5		
	0.625	
7/10		
		80%
7/8		
	0.90	
1/1		

ANSWER SHEET

***Name:*_____**

1.	31.	61.	91.
2.	32.	62.	92.
3.	33.	63.	93.
4.	34.	64.	94.
5.	35.	65.	95.
6.	36.	66.	96.
7.	37.	67.	97.
8.	38.	68.	98.
9.	39.	69.	99.
10.	40.	70.	100.
11.	41.	71.	101.
12.	42.	72.	102.
13.	43.	73.	103.
14.	44.	74.	104.
15.	45.	75.	105.
16.	46.	76.	106.
17.	47.	77.	107.
18.	48.	78.	108.
19.	49.	79.	109.
20.	50.	80.	110.
21.	51.	81.	111.
22.	52.	82.	112.
23.	53.	83.	113.
24.	54.	84.	114.
25.	55.	85.	115.
26.	56.	86.	116.
27.	57.	87.	117.
28.	58.	88.	118.
29.	59.	89.	119.
30.	60.	90.	120.