

# NORTHEAST CONSORTIUM

## *Algebra 1*

Summer Pre-View Packet

### **DUE THE FIRST DAY OF SCHOOL**

The problems in this packet are designed to help you review topics from previous mathematics courses that are important to your success in

#### *Algebra 1*

DO ALL PROBLEMS WITHOUT A CALCULATOR. Show all work that leads you to each solution on separate sheets of paper. You may use your notes from previous mathematics courses to help you. You must do all work without any help from another person. Additional copies of this packet may be obtained from the Main Office in your school or printed from the school's website.

Springbrook: [www.springbrookmath.org](http://www.springbrookmath.org)

Paintbranch: [www.mcps.k12.md.us/schools/paintbranchhs](http://www.mcps.k12.md.us/schools/paintbranchhs)

Blake: [www.mcps.k12.md.us/schools/blakehs](http://www.mcps.k12.md.us/schools/blakehs)

ALL work should be completed and ready to turn in on the FIRST DAY of school. This packet will count as part of your first quarter grade.

**ENJOY YOUR SUMMER!! WE ARE LOOKING FORWARD TO SEEING YOU IN THE FALL.**

Student Name: \_\_\_\_\_

School: \_\_\_\_\_

Date: \_\_\_\_\_

NEC Algebra 1 Summer Review

Name \_\_\_\_\_

**DIRECTIONS:** Each of the following problems comes from Pre-Algebra and should help prepare you for Algebra I in the fall. Please show ALL work for each problem.

**Use order of operations to determine each answer:**

1)  $4 \cdot 16 + 8 - 0 \div 5$  1) \_\_\_\_\_

2)  $8(3 + 4) - 2 \cdot 8 \div (5 - 3)$  2) \_\_\_\_\_

3)  $(8^2 + (13 - 4)^2) \div 5$  3) \_\_\_\_\_

**Insert parentheses to make the following equation true:**

4)  $8 + 12 \div 4 \cdot 5 = 1$

**Determine the answer for each problem:**

5)  $94 - 87 = \underline{\hspace{2cm}}$       6)  $-51 - 98 = \underline{\hspace{2cm}}$       7)  $29 - 100 = \underline{\hspace{2cm}}$

8)  $-777 - (-801) = \underline{\hspace{2cm}}$       9)  $-10 \cdot (-2 \cdot 18) = \underline{\hspace{2cm}}$       10)  $-(4 + -x) = \underline{\hspace{2cm}}$

11)  $-844 \div 4 = \underline{\hspace{2cm}}$       12)  $\frac{-183}{-61} = \underline{\hspace{2cm}}$       13)  $891 \div -91 = \underline{\hspace{2cm}}$

14)  $-2(x + 3) = \underline{\hspace{2cm}}$       15)  $3(2x - 3) - (x - 5) = \underline{\hspace{2cm}}$

NEC Algebra 1 Summer Review

**Write in simplest form:**

16)  $5\frac{2}{5} + 4\frac{1}{5} =$  \_\_\_\_\_

17)  $\frac{2}{3} + \frac{5}{8} + \frac{5}{6} =$  \_\_\_\_\_

18)  $\frac{2}{3}(3x+9) =$  \_\_\_\_\_

19)  $9 - 2\frac{1}{3} =$  \_\_\_\_\_

20)  $10\frac{1}{4} - 3\frac{2}{3} =$  \_\_\_\_\_

21)  $\frac{1}{2} \cdot \frac{5}{8} \cdot \frac{4}{5} =$  \_\_\_\_\_

22)  $-\frac{16}{9} \div 8 =$  \_\_\_\_\_

23)  $-\frac{3}{8} \div \frac{3}{4} =$  \_\_\_\_\_

**Solve each equation below and check your answers:**

24)  $x + 22 = 104.8$

25)  $184 - x = 51$

26)  $x - 6 = 30 + 12$

27)  $30x = 480$

28)  $4y - 8 = 20$

29)  $17 = \frac{x}{3}$

30)  $\frac{x}{24} = \frac{5}{12}$

NEC Algebra 1 Summer Review

**For each of the following, write an algebraic equation. Then solve each equation.**

31) Eight times a number, increased by 6, is 62. What is the number?

32) Number C divided by 0.4 is 10. What is C?

33) One half of a number is equal to 14. What is the number?

**Evaluate each expression given that:     a)  $x = 4$    and   b)  $x = -3$**

	<b>a) <math>x = 4</math></b>	<b>b) <math>x = -3</math></b>
34) $2x =$	_____	_____
35) $x^2 =$	_____	_____
36) $x + 6 =$	_____	_____
37) $5x - 3 =$	_____	_____

**Solve each inequality and graph its solution on the number line:**

38)  $4y > 24$      

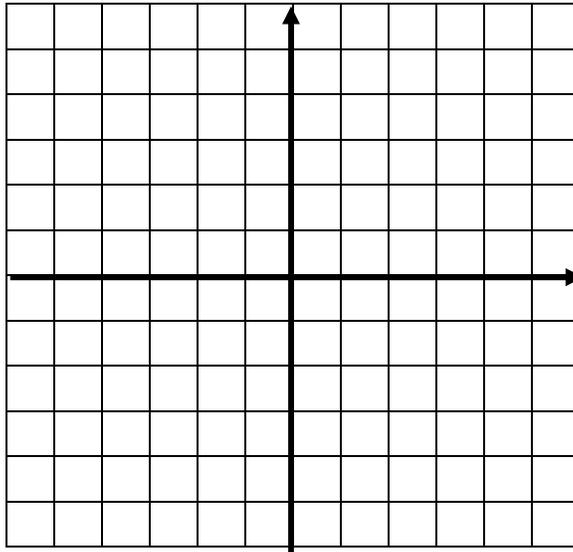
39)  $3 - d \geq 5$      

40)  $\frac{x}{5} \geq 17$      

NEC Algebra 1 Summer Review

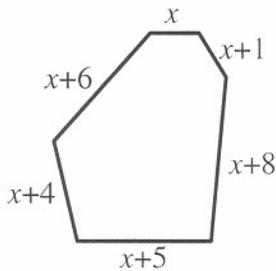
Plot each of the following points on the grid below. Use the letter to label the point on the graph.

- 41)    A(3,0)            B(5,5)            C(-1,2)            D(-3,-2)            E(0,-3)



Answer in complete sentences where appropriate. Show all your work to receive full credit.

42. The perimeter of the figure below is equal to 150 cm.



- What is the length of the longest side of the polygon? Use mathematics to explain how you determined your answer. Use words, symbols, or both in your explanation.

NEC Algebra 1 Summer Review

43. Taylor is participating in a new fitness program in which he is required to report his weight at the end of each week. The table below shows some of his results.

<b>Number of Weeks in the Fitness Program</b>	<b>Weight (in pounds)</b>
2	181
5	176
9	167
12	160
16	153
19	148

- Graph the data from the table on the grid provided. Use a straight edge to sketch the trend.

