

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. Try NOT to use the calculator.

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) $94 - 87 =$ _____ 6) $-51 - 98 =$ _____ 7) $29 - 100 =$ _____

8) $-777 - (-801) =$ _____ 9) $-10 \cdot (-2 \cdot 18) =$ _____ 10) $-(4 + -x) =$ _____

11) $-844 \div 4 =$ _____ 12) $\frac{-183}{-61} =$ _____ 13) $891 \div -91 =$ _____

14) $-2(x + 3) =$ _____ 15) $3(2x - 3) - (x - 5) =$ _____

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

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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) A 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) $x = -3$

34) $2x =$ _____ a) $x = 4$ _____ b) $x = -3$ _____

35) $x^2 =$ _____ _____

36) $x + 6 =$ _____ _____

37) $5x - 3 =$ _____ _____

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

38) $4y > 24$ _____

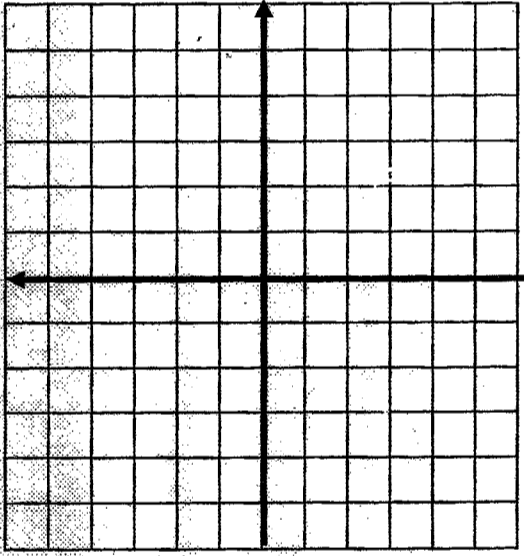
39) $3 - d \geq 5$ _____

40) $\frac{x}{5} \geq 17$ _____

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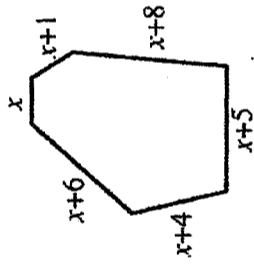
Plot each of the following points on the grid below. Use the letter to label the point on the graph.

- 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.



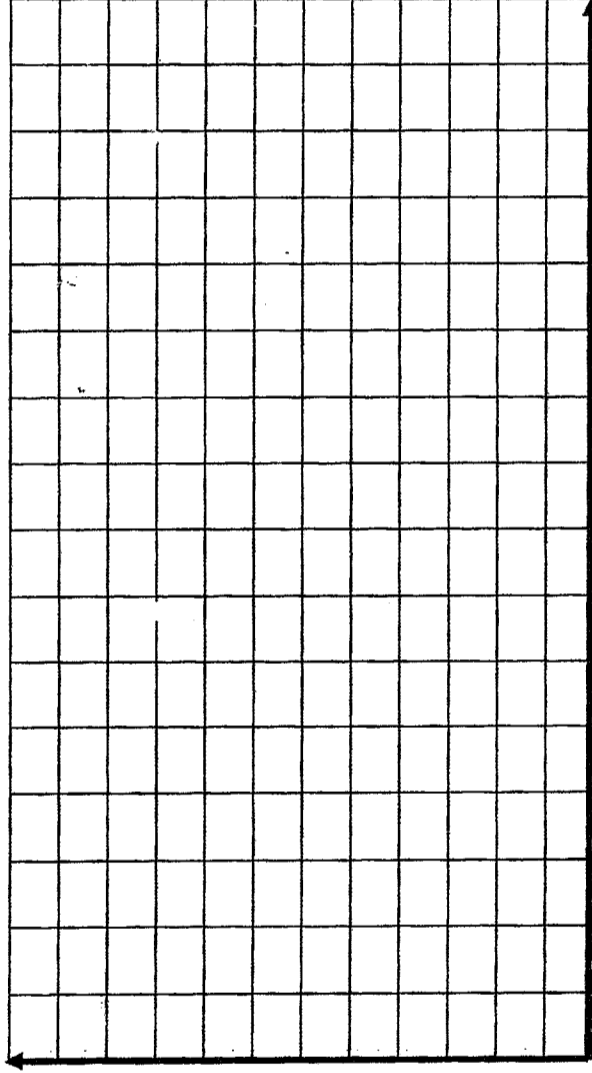
- What is the length of the longest side of the polygon? Use mathematics to explain how you determined your answer. Use words, symbols, or both in your explanation.

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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.

Number of Weeks in the Fitness Program	Weight (in pounds)
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.



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44. Mr. Yang teaches two math classes. The table below shows the recent test scores for his students.

Class A	56	57	57	59	65	67	68	70	72	75	88	89	91	95	96	98	99
Class B	62	73	76	79	79	83	84	84	85	87	87	87	90	92	93	93	95

- Construct a box-and-whisker plot to summarize the test scores for each class.
- Overall, which class did better on the test? Use mathematics to justify your answer. Be sure to give at least two specific examples.

PLEASE COME PREPARED TO CLASS THE FIRST DAY. BRING A PENCIL AND PAPER, WITH A NOTEBOOK. ALL ALGEBRA 1 STUDENTS ARE REQUIRED TO HAVE AND BRING A **GRAPHING CALCULATOR** EVERY DAY. IT IS BEST IF YOU PURCHASE A TI-83 OR TI-84 THIS SUMMER AT A LOCAL STORE.