

## Optional Algebra 1 Summer Packet

**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)  $94 - 87 =$  \_\_\_\_\_ 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)  $3(2x - 3) - (x - 5) =$  \_\_\_\_\_

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

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)  $x = -3$**

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

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

38)  $4y > 24$       

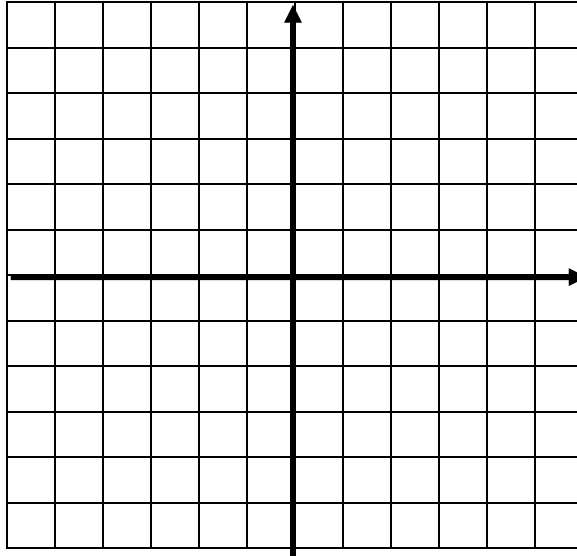
39)  $3 - d \geq 5$       

40)  $\frac{x}{5} \geq 17$       

Algebra 1 Summer Review

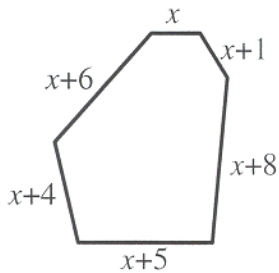
Plot each of the following points on the grid below. Use the letter to label the point on the graph.

- 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.



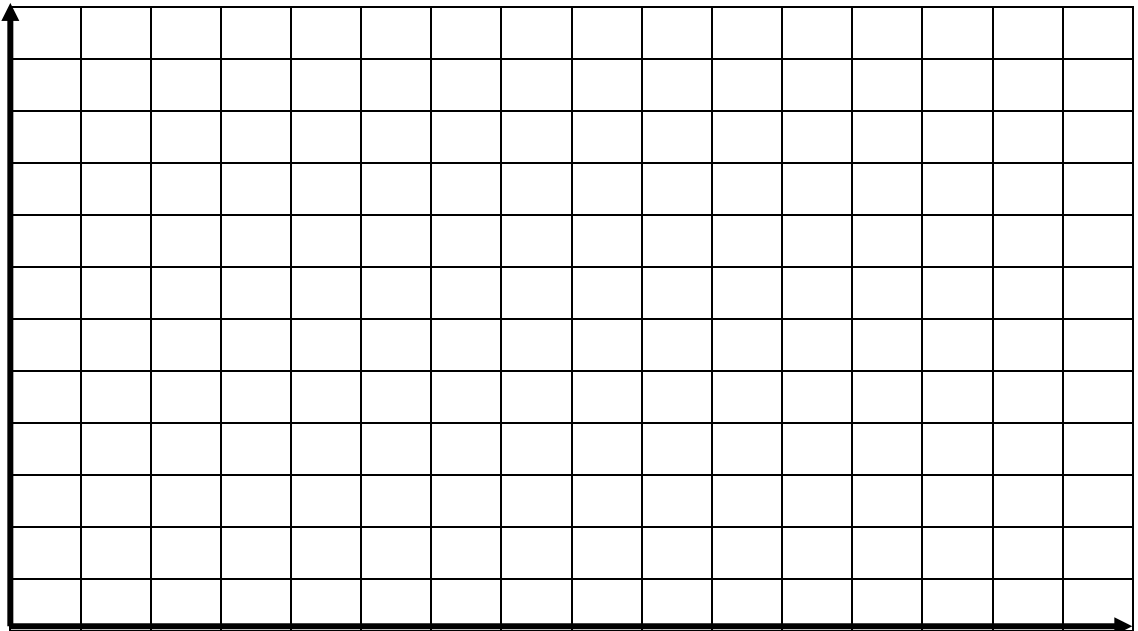
- What is the length of the longest side of the polygon? Use mathematics to explain how you determined your answer. Use words, symbols, or both in your explanation.

# 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.



Algebra 1 Summer Review

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.

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