

Algebra I Honors Summer Packet 2019

Welcome to Algebra I !!

Please Read Carefully so you know what is expected of you. Your completed summer packet is due on the **first day of school**, and you will be given a test on the material contained in the summer packet during a 75-minute class the week of September 3, 2019 (first week of school). The summer packet will count for 10% and the test will count for 90% of your grade for the summer review.

Enclosed is a set of objectives on material that you should already know but that you might need to review.

Along with the objectives is a reference guide with examples and videos on each objective.

*Each objective has a set of problems for you to complete. You are expected to complete **all the problems**. An answer key to the odd numbered problems is attached.*

Each assignment should be on a separate sheet of paper. Show all work in a neat and organized manner, make sure to include the original problem. Please circle or highlight your answers.

Enjoy your summer and **Welcome!!**

Unit One: Review of Introductory Algebra Topics I

Objectives: The student through this individual guided assignment will be able to:

1. Add, subtract, multiply and divide integers.
2. Simplify and expression using order of operations.
3. Evaluate expressions involving exponents with numerical bases.
4. Understand the rules of even and odd powers involving negative numbers.
5. Calculate the absolute value in an expression.
6. Understand the difference between division into zero and division by zero.
7. Evaluate algebraic expressions for given numeric values.
8. Identify terms, factors, variables and coefficients of algebraic expressions.
9. Identify like terms and simplify expressions by combining them.
10. Simplify expressions involving parenthesis using distributive property.
11. Solve 1 & 2 step equations.

DO NOT PANIC!

If you are having trouble on any of the material do your best. I will be happy to help you one day after school if you need more reinforcement. But remember *google* is a good source to look up tutorials.... there is soooooo much available!

Good Luck!

Keep this packet. This will act as your first set of notes to keep in your notebook for the year!how

REVIEW ASSIGNMENTS

(Do NOT use a calculator on this review packet!)

OBJECTIVE 1: Add, Subtract, Multiply and Divide Integers.

<https://youtu.be/BgblvF90UE>

https://youtu.be/K_tPbVPfHgk

#1: Practice Set A: Add, Subtract, Multiply and Divide Integers:

Calculate the following:

1. $12 - (-5)$

2. $(-9)\left(\frac{2}{3}\right)$

3. $-42 \div -14$

4. $14 - 25 - 42 \div -14$

5. $-28 + 34$

6. $(-12)(3)\left(-\frac{3}{4}\right)$

7. $(-5)(-6)(-2)$

8. $-8 - 10$

OBJECTIVE 2: Order of Operations

https://youtu.be/v_380zR6rq0

#2: Practice Set B: Order of Operations:

Simplify the following:

9. $18 \div 2 \cdot (-3)$

10. $-9 + 6 \div 2 - 1$

11. $(3 - 8)^2 \cdot 4 - 3$

12. $5 + 3(2 - 12 \div 2)$

13. $\frac{3(4 + 12)}{2(7 - 3)}$

14. $-4(3)^2 - (-12) \div (-2)$

OBJECTIVES 3 & 4: Evaluate expressions with exponents.

<https://youtu.be/Zt2fdy3zrZU>

<https://youtu.be/g4bKGS2IoY>

#3 & 4: Practice Set C: Evaluate Expressions with Exponents:

Simplify the following:

15. -5^4

16. $(-5)^4$

17. -3^3

18. $(-3)^3$

19. $-(-2)^4$

20. $4 - (-3)^2 + 12 \div (-6)$

21. $-5(-2)^3 \div [4 \cdot (2 - 2^2)]$

OBJECTIVE 5: Absolute Value : $|x|$
<https://youtu.be/ApkvLqzj3eU>
<https://youtu.be/LVCHBB6QWfc>

#5: Practice Set D: Absolute Value:

Simplify the following:

22. $|-8 - 4 + 7|$

23. $-|-25|$

24. $-2|-3 + 8| + 5 - 4^2$

25. $4 - |6 - 15|$

OBJECTIVE 6: Division by zero
https://youtu.be/1TZt4nO_HFM

#6: Practice Set E: Division By Zero:

Simplify the following:

26. $\frac{-7}{0}$

27. $\frac{0}{-7}$

$$28. \quad \frac{-4 + 7 - |-3|}{-3^2 + 5}$$

$$29. \quad \frac{3 + 6^2 \div 12}{9 - 3^2}$$

OBJECTIVE 7: Evaluate algebraic expressions for given numeric values.

<https://youtu.be/WJqw-cxvKgo>

#7: Practice Set F: Evaluate Expressions:

Evaluate each expression when $a = -6$, $b = 5$, $c = 8$, $d = -\frac{1}{2}$

30. $-4b^2 - ac$

31. $|a - c| + a^2$

32. $3b - cd + a$

33. $dc^2 \div (a + c)$

34. $d(c - a) - b$

OBJECTIVE 8: Identify terms, factors, variables and coefficients of algebraic expressions.

#8: Practice Set G: Identify Vocabulary:

For each expression, identify how many terms each has, list the variables, list the coefficients, state the constant coefficient, if there is one, and list the factors of the 2nd term.

35. $5x^2y^2 - 6xy + 8$

36. $2a - 5b + 3c - 9d$

OBJECTIVE 9: Identify like terms and simplify expressions by combining them.

<https://youtu.be/y7GwRJOIohM>

#9 Practice Set H: Identify Like Terms and Simplify Expressions by combining them

Simplify the following:

37. $4x^2 - 3x + 2x^2 - 1$

38. $6ab - 2ab^2 - 8ab + 5ab^2$

OBJECTIVE 10: Simplify expression with parenthesis using the Distributive Property.

<https://youtu.be/v-6MShC82ow>

#10: Practice Set I: Simplify expressions with parenthesis using Distributive Property

Simplify each of the following:

39. $8(4x - 2)$

40. $\frac{2}{3}(6y + 9)$

41. $2(3x - 5) - 4(x - 6)$

42. $3a - a(6 - 5a) + 8$

43. $2x(3x - 5) + 6x^2$

OBJECTIVE 11: Solve 1 and 2 step equations.

<https://youtu.be/LDliYKYvvdA>

#11: Practice Set J: 1 and 2 Step Equations

Solve each of the following equations:

44. $\frac{n}{5} = -6$

45. $\frac{2}{5}n = -8$

46. $12 = 7 - m$

47.
 $9 - 2x = -11$

48. $41 = \frac{2}{5}x - 7$

49. $\frac{n}{3} - 11 = 4$

50. $3.5 + 10m = 7.32$

ODD ANSWERS TO PRACTICE SETS

Practice Set A

- 1. 17
- 3. 3
- 5. 6
- 7. -60

Practice Set B

- 9. -27
- 11. 97
- 13. 6

Practice Set D

- 23. - 25
- 25. - 5

Practice Set E

- 27. 0
- 29. undefined

Practice Set F

- 31. 50
- 33. - 16

Practice Set G

- 35. 3 terms;
Variables: x, y
Coefficients: 5, -6
Constant: 8
2nd Term Factors: -6, x, y

Practice Set H

- 37. $6x^2 - 3x - 1$

Practice Set C

Practice Set I

- 15. - 625
- 17. - 27
- 19. - 16
- 21. - 5

- 39. $32x - 16$
- 41. $2x + 14$
- 43. $12x^2 - 10x$

Practice Set J

- 45. $n = -20$
- 47. $x = 10$
- 49. $n = 45$