**Getting Ready for ALGEBRA 1 Name:**

**Part I: Working with Variables and Order of Operations *Help Links Highlighted in Yellow***

**Know how to simplify and evaluate algebraic expressions following the order of operations.**

**Simplify** [**Click here for help with Questions 1 - 3!**](https://www.mathsisfun.com/operation-order-pemdas.html)

1)

2)

3)

**Evaluate when , and z = 5** [**Click here for help with Questions 4 and 5!**](http://www.montereyinstitute.org/courses/DevelopmentalMath/COURSE_TEXT2_RESOURCE/U09_L1_T1_text_final.html)

4)

5)

**Part 2: Translating Words into Math**

**Know how to translate English phrases and sentences into mathematical expressions, or equations. Know how to use variables to represent a mathematical situation.**

**Translate each into a mathematical expression or sentence:**

6) the difference between three times a number and one \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7) six times the sum of a number and four \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8) The product of seven and the sum of twice a number and five is eight.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9) The sum of one-third of a number and twice another number is fifteen. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Write a variable expression to illustrate each situation.**

10) You have ten dollars more than your friend. Your friend has dollars. In terms of ,

how much money do you have?

11) Your friend is three inches taller than you.

1. If you are inches tall, how tall is your friend?

b) If your friend is inches tall, how tall are you?

**Part 3: Number Line, Opposites and Absolute Value**

**Know how to compare, translate, and evaluate expressions and statements containing inequalities and/or absolute value.**

**Insert an inequality symbol to make a true statement.**

[**Click here for help with Questions 12 - 17!**](https://flexbooks.ck12.org/cbook/ck-12-interactive-middle-school-math-6-for-ccss/section/5.5/related/lesson/absolute-value-of-integers-msm7/)

12) 0 -5

13) -1

14)

**Translate into an inequality statement.**

15) Negative four is greater than negative twelve.

16) Twenty is greater than four more than a number.

17) Eight is greater than the absolute value of the product of negative four and .

**Evaluate when , and**

18)

19)

20)

**Part 4: Addition and Subtraction**

**Know how to simplify expressions involving addition of integers and variables.**

**Simplify**

21)

22)

23)

**Simplify**

24)

25)

26)

**Know how to simplify expressions involving subtraction (or addition AND subtraction) of integers and variables. Know how to evaluate addition and subtraction expressions.**

**Simplify.**

27)

28)

29)

**Simplify**

30)

31)

32)

**Evaluate when and**

34)

35)

36)

**Part 5: The Distributive Property**

**Know how to distribute and simplify**

**Distribute and simplify** [**Click here for help with Questions 37 – 40!**](https://www.youtube.com/watch?v=v-6MShC82ow)

37)

38)

39)

40)

**Part 6: Multiplying and Dividing**

**Know how to find the product of integers and variables.**

**Simplify**

41)

42)

43)

44)

**Know how to use reciprocals to change division to multiplication.**

**Change each expression from division into multiplication and simplify**

45)

46)

47)

**Know how to perform operation with fractions.**

**Simplify**

48)

49)

50)

**Part 7: Solving Equations Using Inverse Operations**

**Know how to solve a variety of equations, simplifying first where needed.**

**Solve using inverse operations** [**Click here for help with Questions 51 – 59!**](https://www.ck12.org/algebra/two-step-equations-with-addition-and-multiplication/lesson/Solve-Equations-Using-Inverse-Properties-of-Addition-and-Multiplication-MSM8/)

51)

52)

53)

54)

55)

56)

57)

58)

59)

**Know how to solve equations containing variables on both sides of the equation. Know how to recognize whether an equation is an identity or has no solution.**

**Solve using inverse operations.** [**Click here for help with Questions 60 – 64!**](https://www.youtube.com/watch?v=oLQmsajh-eQ)

60)

61)

62)

63)

64)