College Algebra

Sections 1.1-1.2 Notes, examples, assignments, …

VML: Virtual Math Lab Lessons (Reference resource, examples, and practice problems with solutions) <http://www.wtamu.edu/academic/anns/mps/math/mathlab/int_algebra/index.htm>

* Read **Sec. 1.1** for tips on succeeding in math. As you read the section, you will realize that your parents and I are not the only ones telling you that doing your homework is important.

(VML tutorial 1)

* **Sec. 1.2** Algebraic Expressions and Sets of Numbers, Pp 7-16. This is a REALLY long section, but very important to the course.

(VML tutorials 2 and 3)

1. Define and give an example of a **variable**.
2. Define and give an example of an **algebraic expression**.
3. What is involved in the process of evaluating an expression?
4. What is the result of evaluating an expression called?
5. Try This: The area of a rectangle with length ***l*** and width ***w*** is ***lw***. Find the area of a rectangle with length 5 meters and width 3.2 m.
6. Try This: Evaluate b – 5a when a = 4 and b = 35.
7. For additional practice, try examples 1 and 2, pp 7, 8.
8. When drawing a number line, what is the point at the number zero called?
9. What is the space between 0 and 1 (or any two consecutive integers) called?
10. On a number line, where are positive numbers located?

Where are negative numbers located?

Is zero positive or negative?

1. Explain the process for graphing a number on a number line.
2. What is an **ellipsis** and what does it represent in math?
3. In math, what do we call a collection of objects (including numbers)?

What are the objects in the collection called?

1. Sets are usually described in one of two ways: roster form and set-builder notation. Give an example of each.
2. What is an **empty set**?

What is another name for empty set?

What two symbols are used to represent an empty set?

Does {Ø} represent an empty set? Give an explanation to justify your answer.

1. Try This: Write each set in roster form.
   1. {x│ x is a whole number between 0 and 4}
   2. {x│ x is a natural number greater than 80}
2. What does the symbol ∈ represent?
3. Try This: Determine whether each statement is true or false.
   1. 0 ∈ {x│ x is a natural number}
   2. 9 ∉ {4, 6, 8, 10}
4. For additional practice, try examples 3, 4 on pg. 9.
5. What does the symbol ⊆  represent?
6. Classifying Real Numbers Activity and Practice Hand-outs

Refer to pg. 10 for help. Try example 5 on pg. 11.

1. What sets are identified as Z and Q? (See Pg. 16)
2. What do we call the distance between a number and zero, on a number line? What symbol is used for the concept?
3. Practice: Example 6 on pg. 12.
4. Think About It: When is │a│ = – a? Justify your answer.
5. What is the definition of **opposites**?
6. What is the opposite of zero?
7. What Property allows us to say that – (– 5) = 5?
8. Practice: Example 7 on pg. 13.
9. Refer to the table at the bottom of pg. 13. These concepts are important to understand. Try the following exercise. Write an algebraic expression for each phrase:
   1. twice a number
   2. five more than six times a number
   3. the quotient of 6 and a number
   4. one-fourth subtracted from three times a number
   5. eleven less than a number
   6. three times the difference of a number and ten
10. Practice: Example 8 on pg. 14.
11. **HOMEWORK: *Hand in***

Concept Understanding Pg. 14 (1-10);

Show all work for Pp. 15-16

2,4,6,8 Evaluating expressions

9-14 Application problems

16,18,19,20,22 Set notation

24,28,30 Number Lines

38,42,44 Members of a set

45-56 Number classification (extra practice: 31-36)

58,60,62,64 Absolute Value

66,68,70,72 Opposites

74-92, evens only, Phrases to Algebraic expressions

* Sec. 1.2 **TEST**