Reflection on Learning Skills

Use the four readings on learning skills listed below to answer the following questions.

* Brain-Based Reading I
* Brain-Based Reading II
* Studying and Learning Math
* Self-Assessment
1. Name two things that help dendrites grow.
2. What is “pruning” and why does it occur?
3. Name one thing that helps move information from short-term to long-term memory.
4. What does the phrase “Not Too Hot – Not Too Cold, but Just Right” mean?

**Thinking Ahead about Positive and Negative Numbers** – You should understand these questions fully before the next class. Check your answers with the key on your instructor’s website. You can get help with this work from the following sources:

* Sections 1.1 and 1.2 in your textbook
* Visit your instructor during office hours
* Go to the Algebra Alcove
* Use the following resources on the Internet:

**Adding negative and positive numbers:**

* <http://www.youtube.com/watch?v=C38B33ZywWs&feature=youtube_gdata>
* [http://www.math.com/school/subject1/lessons/S1U1L11GL.html#sm3](http://www.math.com/school/subject1/lessons/S1U1L11GL.html%23sm3)
* <http://www.purplemath.com/modules/negative2.htm>
* <http://nlvm.usu.edu/en/nav/frames_asid_161_g_1_t_1.html?from=topic_t_1.html> – **Note: This site does not provide explanation, but it has an interactive feature that creates a visual representation of addition.**

**Write the name of the number set from the list below by each description.**

**Real Numbers Rational Numbers Integers**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ The whole numbers and their opposites {…-3, -2, -1, 0, 1, 2, 3,…}
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_All numbers that can be represented on the number line.
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_All numbers that can be written as , where *a*  and *b*  are integers and *b* does not equal 0.
4. Order the following numbers from smallest to largest:

, -2.3, -3, , 1.6, , -2.1, , -0.03, , -1.3, , 0, -0.1

1. In your list above, circle any numbers that are integers.
2. Suppose you have $56 in your checking account and write a check for $70. Will your balance be positive or negative?
3. Suppose you are overdrawn at the bank by $125 and you deposit $175. Will your balance be positive or negative?
4. Suppose you are overdrawn at the bank by $34 and you write a check for $23. Will your balance be positive or negative?

**Understanding Notation** -- Can you define the word “light”? Look at the two sentences below. Does your definition work for both sentences?

* *Please turn on the light.*
* *This bag seems very light.*

We are used to words having multiple meanings and using the context of the situation to determine which meaning is correct. Words and notation in math have multiple meanings also and you have to determine which meaning applies based on the context. You’ve already gotten used to one situation like this. You probably recognize that in the expression “3 x 4”, the “x” refers to multiplication. But in “3x + 4x”, the “x” is a variable.

Parenthesis have many meaning in math. There are other uses that you will learn about in later courses. You should be aware of the following in this course.

* As a grouping symbol to indicate order of operations: (3 +4 ) – (2 +3).
* To indicate multiplication: 3(4) means *three times four*
* As a way to separate other symbols to prevent confusion: *three plus negative 4* is written 3 + -4, but having the plus and negative sign together can be confusing, so it is commonly written as 3 + (-4). The parenthesis does not indicate an operation, it’s purpose is only to set off the -4.
* To indicate an ordered pair on a two-dimensional graph: (2, 5) represents a point on a graph. [Will be covered later in this course.]

**For the problems below, predict whether the sum will be positive or negative. Circle the correct answer.**

|  |  |  |
| --- | --- | --- |
| 1. 448 + (-315)
 | 1. -1.62 + (-1.20)
 | 1. -967 + 340
 |
| Positive | Negative | Positive | Negative | Positive | Negative |
|  |  |  |
| 1. -12,503 + 2,578
 | 1. 36 + (-784)
 | 1. -0.93 + 0.0034
 |
| Positive | Negative | Positive | Negative | Positive | Negative |
|  |  |  |

**Find each sum without a calculator!**

|  |  |  |
| --- | --- | --- |
|  | 1. -32 + 22
 | 1. -14 + (-20)
 |
| 1. -3 + 6 + (-8)
 | 1. 10 + (-13) + 6
 | 1. -3 + (-6) + (-2)
 |
| 1. 4 + (-4)
 | 1. -15 + 15
 | 1. -345 + 345
 |

**Give the opposite of each number.**

|  |  |  |  |
| --- | --- | --- | --- |
| 1. -5
 | 1. 13
 | 1. x
 | 1. –a
 |