Relational Operators

Because last week they just took a test, this section will provide a little fun. I would like to try out the game technique this week.

1. Divide them into 3-4 groups (there are 17 students) 2-5 minutes
2. Five questions about relational operators will be given to each team. Each member of the group will be in charge of one problem. However, they should work as a group in solving these problems. (25 minutes)
3. I will state one of the problems and pick one student randomly to present the problem to the whole class. After stating the problem, I will give 30 seconds to the student to process the question. Then, the presenters have to come on the board after 30s and write down the answer (2-3 minutes). Each point will be given to every right answer.
4. Chocolate will be the prize for the winning group.

Questions:

a. What is the output for this code?

```
double b = 3.0/7.0 + 2.0/7.0 + 2.0/7.0;
if (b = = 1.0)
        System.out.println("Value of a equals 1.0");
else
        System.out.println("Value of a does not equal 1.0");
```
Answer: Value of a does not equal 1.0 (reference page 171 of textbook)

b. Given x and y are floating-point numbers, what does **Math.abs(x-y)** method do? What is the practical purpose of this method (clue: What is the purpose of this expression **Math.abs(x-y) < 0.000001**)?

Answer: This method will determine whether x equals to y.

c. What is the result of these two expressions? Explain your answers

   a. 8 < '5'

   b. 8 < 5

Answer: a. true (integer compare with char, using Unicode character set)

   b. false

d. What is the difference between **equals()** and **compareTo()**?

Answer: equals() returns Boolean type

   compareTo() returns Integer type

e. Put these operators in precedence order:

- &&   (6)
- =   (8)
- !, +, - (unary operators)   (1)
- +, -   (3)
- = =, !=   (5)
- || (7)
- *, /, %   (2)
- <, <=, >=, >   (4)