**Write a short java statement for each question item**

**Section one**

**1) Declare a variable for each of the data types, pay attention to the naming convention and**

**syntax**

a. an int variable representing the number of students, the value of this variable is 45.

Int numOfStudents;

Note: This question seems to be looking for a declaration and instantiation of a variable to hold the number 45; in this case the correct answer would look like the following: int numOfStudents = 45;

b. a double variable representing a student’s GPA. double gpa;

c. a float variable representing the amount you need to pay for gas at a gas station. float amountDue;

d. a char variable that has the value of C. char letter;

e. a String variable containing the name of your pet/hometown/your favorite dish. String personalInterest;

Section two

2) Write down the result for the following statement.

**a.** int a = 15;

float b = 15.0;

c = a + b; This code would not compile because, there is a logical error as the variable ‘c’ is not declared nor is it instantiated; furthermore, ‘b’ should be written with the value of ’15.0f’ to specify the use of the lesser precision variable of type float as opposed to the more precise double data type.

Question: the data type of c should be float

**b.** int a = 5;

double b = 15.0;

c = a + b;

Question: the value of c is 20.0, the data type of c is double

**c.** int numOfPeople = 10;

int numOfApple = 4;

c = numOfPeople / numOfApple;

Question: the value of c is 2 (if an int is used. If a double is used then the answer will be 2.0, the data type of c should be an ‘int’ if the math needed does not require precision and a ‘double’ if precision is required.

**d.** int numOfPeople = 10;

int numOfApple = 4;

c = numOfPeople % numOfApple;

Question: the value of c is 2, the data type of c should be int

**e.** int numOfPeople =10;

int numOfApple = 4;

double applePerPerson = 0.0;

applePerPerson = numOfPeople / numOfApple;

Question: the value of applePerPerson is 2.0 Note: if the numerator were to be cast as a double, then applePerPerson would need to be a double to keep the precision of the resultant.

**f.** int num1 = 5;

int num2 = 4;

int result = num1 % numb2;

Question: the value of result is 1.

g. Let assume you have 1003 cents, using / and % to write a block of java statement to

calculate the number of dollars, quarters, and cents you have.

**int** pennies = 1003;

**int** quarters = 0;

**int** nickels = 0;

**int** dimes = 0;

quarters = pennies / 25;

pennies = pennies % 25;

dimes = pennies / 10;

pennies = pennies % 10;

nickels = pennies / 5;

pennies = pennies % 5;

System.***out***.println("quarters: " + quarters + "\tdimes: " + dimes + "\tnickels: " + nickels + "\tpennies: " + pennies);

**Section Three**

**Write a block of pseudo code that captures the following federal tax bracket, please note that the**

**following chart is an approximation of the tax bracket, but is not the actual tax bracket:**

For people who file single status,

Taxable income tax bracket

0 - $8,500 10%

$8500-$34,500 15%

$34,500 - $83,600 25%

$83,600 - $174,400 28%

$174,400 – $379,150 33%

$379,150 above 35

//capture the taxable income value, set it to a var named ‘amount’

//declare variable an initialize it that stores the ‘tax bracket’; i.e., float taxBracket.

//if(amount is between 0 - $8,500) tax bracket = 10%

//if(amount is between $34,500 - $83,600) tax bracket = 25%

//if(amount is between $83,600 - $174,400) tax bracket = 28%

//if(amount is between $174,400 – $379,150) tax bracket = 33%

//if(amount is $379,150 or above) tax bracket = 35%