Signature _____ **CSE 11 Quiz 2 Fall 2012** **Name** _____

cs11f ____ **Student ID** _____

This quiz is to be taken **by yourself** with closed books, closed notes, no calculators.

(Partial) Operator Precedence Table

Operators	Associativity
* / %	left to right
+ -	left to right
< <= > >=	left to right
== !=	left to right
&&	left to right
||	left to right
=	right to left

1) What are the values of x, y, z (left) and a, b, c (right) after the following code segments are executed?

```
int x = 6, y = 3, z = 0;

if ( --x > 5 || y++ > 3 )
  z = ++x + y--;
else
  z = x++ + --y;
```

x =
y =
z =

```
int a = 8, b = 5, c = 0;

if ( ++a <= 8 && b-- >= 4 )
  c = a++ + --b;
else
  c = ++a + b--;
```

a =
b =
c =

2) What is the equivalent Java expression for the following expression such that no ! operators are used?

```
!( x < 17 && y >= 3 )
```

_____

3) Using only the statements below, select the order of the statements to draw a T such that the width of the T is size pixels and the height of the T is twice size pixels. Do not worry about where it is drawing. Assume the turtle is pointing up when the method is called and is positioned at the upper left corner of where we want to draw the T. Start drawing the T at the upper left corner of the T. Have the turtle end at the bottom of the T.

Write the letter corresponding to each statement in the correct order to draw a T. Do it in exactly 5 statements.

```
A) this.forward( 2 * size );
B) this.forward( size );
C) this.turn( 90 ); // turn right
D) this.forward( -(size/2) );
E) this.forward( size/2 );
```

```
public void drawT( int size )
{
  _____

  _____

  _____

  _____

  _____
}
```

4) Assume a program had the following definitions (Point has an x and a y value with proper equals() defined):

```
Point p1 = new Point( 37, 23 );
Point p2 = new Point( p1 );
Point p3 = p2;
```

What results would be produced by evaluating the following expressions (left to right; top to bottom)?

```
p1 == p2      _____________      p1 == p3      _____________      p2 == p3      _____________

p1.equals(p2) _____________      p1.equals(p3) _____________      p2.equals(p3) _____________

p1.translate(1, 1);  // Add 1 to the x and y coordinates in the Point object ref'ed by p1

p1.equals(p2) _____________      p1.equals(p3) _____________      p2.equals(p3) _____________

p2.translate(1, 1);  // Add 1 to the x and y coordinates in the Point object ref'ed by p2

p1.equals(p2) _____________      p1.equals(p3) _____________      p2.equals(p3) _____________

p3.translate(1, 1);  // Add 1 to the x and y coordinates in the Point object ref'ed by p3

p1.equals(p2) _____________      p1.equals(p3) _____________      p2.equals(p3) _____________
```

5) What output is produced with the following code fragment? Assume `method1()` is invoked as

```
Quiz2 q2 = new Quiz2();
q2.method1( 11 );
```

```
public class Quiz2
{
  private int a;                  // Line 3

  public void method1( int x )
  {
    int a;                        // Line 7
    int b = x;

    a = b % 5;
    this.a = b / 3;

    System.out.println( "a = " + a );
    System.out.println( "b = " + b );
    System.out.println( "this.a = " + this.a );
    System.out.println( "method2() result = " + method2( x ) );
    System.out.println( "a = " + a );
    System.out.println( "b = " + b );
    System.out.println( "this.a = " + this.a );  }

  private int method2( int x )
  {
    int a = x;
    int b = this.a;

    b = b * 2;

    System.out.println( "a = " + a );
    System.out.println( "b = " + b );
    System.out.println( "this.a = " + this.a );

    this.a = b + 3;

    return a + 3;
  }
}
```

What is the initial value of `a` on Line 7? _____

What is the initial value of `a` on Line 3? _____

Output:

```
a = __________
b = __________
this.a = __________
a = __________
b = __________
this.a = __________
method2() result = __________
a = __________
b = __________
this.a = __________
```