This quiz is to be taken by yourself with closed books, closed notes, no electronic devices.

(Partial) Operator Precedence Table

<table>
<thead>
<tr>
<th>Operators</th>
<th>Associativity</th>
</tr>
</thead>
<tbody>
<tr>
<td>! ++ --</td>
<td>(pre &amp; post inc/dec) right to left</td>
</tr>
<tr>
<td>* / %</td>
<td>left to right</td>
</tr>
<tr>
<td>+ -</td>
<td>left to right</td>
</tr>
<tr>
<td>&lt; &lt;= &gt; &gt;=</td>
<td>left to right</td>
</tr>
<tr>
<td>== !=</td>
<td>left to right</td>
</tr>
<tr>
<td>&amp;&amp;</td>
<td>left to right</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>=</td>
<td>right to left</td>
</tr>
</tbody>
</table>


```java
text
```

2. Consider the following code segment:

```java
x = y;
y = !x;
x = !y;
```

Assume x and y are initialized boolean variables. Which of the following statements is true? Circle the letter in front of the true statement.

A. The final value of x is the same as the initial value of x.
B. The final value of x is the same as the initial value of y.
C. The final value of y is the same as the initial value of y.
D. The final value of y is the same as the initial value of x.
E. It is not possible to say anything about the final values of x and y without knowing their initial values.

(Continued on other side)
3. If b is a boolean variable, then the statement

   b = ( b == false );

has what effect? _____

A. It causes a compile-time error message.
B. It causes a run-time error message.
C. It causes b to have the value false regardless of its value just before the statement was executed.
D. It always changes the value of b.
E. It changes the value of b if and only if b had value true just before the statement was executed.

Which of the following is equivalent to and has the same effect as  \( b = ( b == false ); \) ? _____

A. \( b = ( b == true ); \)
B. \( b = ( b != true ); \)
C. \( b = ( b != false ); \)
D. \( b = ( b == b ); \)
E. \( b = ( b != b ); \)
F. More than one of the above statements is equivalent

4. What gets printed with each of the following statements?

```java
int a = 2;
int b = 0;
int c = 5;
System.out.println( (a + b) + c + " = " + a + (b + c) );

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

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

5. Assume that \( x \), \( y \), and \( z \) are all int variables. Consider the following code segment:

```java
if ( x == 0 ) {
    if ( y == 1 )
        z = z + 2;
} else {
    z = z + 4;
}
System.out.println( z );
```

Answer: ________

What is printed if \( x \), \( y \), and \( z \) are all equal to zero before the code segment executes?

6. If addition had higher precedence than multiplication, then the value of the expression

\[ 2 \times 3 + 4 \times 5 \]

would be ____________.