Pencil And Paper Assignment For Lesson 2

1. Consider the following if…then logic:
   ```
   if(age > 65) socialSecurityStatus = "eligible";
   else socialSecurityStatus = "ineligible";
   ```

   Rewrite this (pseudo) code using the Java ternary operator.

2. Suppose a String s is initialized by
   ```
   String s = "a friendly face";
   ```

   a. Compute the value of the expression

      ```
      s.charAt(2);
      ```

   b. What is the value of

      ```
      s.length()?
      ```

   c. What is the value of

      ```
      s.substring(2,9)?
      ```

      ```
      s.substring(4)?
      ```

3. Write a Java expression that computes each of the following:
   a. Given the radius r of a circle, compute the area of the circle, and store it in a variable A.
   b. Given the length len and width wid of a rectangle, compute the length of the diagonal of the rectangle, and store it in a variable diag.

4. Compute the following (without writing any Java code) and indicate the type of your answer. (Example: 4 * 3 + 2 equals 14, of type int.)

   ```
   a. 3 * 5 / 9 % 2
   b. 4 ^ 3 & 5
   c. 13 >> 2 << 2 ^ 4
   d. 32 | 16/3 >> 2 & 5.
   ```

5. You are reviewing some old Java programs in your company's IT department and you read the following assignment statement in some abandoned code:

   ```
   int a = (b = 5);
   ```

   Is the statement legal (i.e. would it compile)? If so, what value is assigned to the variable a? Explain.