# WORKSHEET 3.1

# Data Types

1. State whether the following are legal identifiers in Java. If they are not legal, indicate why.

a. number

b. 5number

c. thisNumber

d. that\_number

e. big number

f. char

g. character

2. State whether the following are legal declarations and initializations of identifiers. If they are not legal, indicate how to correct them.

a. **int** num1 = 8;

b. **int** num2 = 7.6;

c. **float** num3 = 5;

d. **float** num4 = 5.9;

e. **float** num5 = 4.34e5;

f. **char** ch1 = ‘v’;

g. **char** ch2 = 84;

h. **double** num6 = 78456;

i. **double** num7 = 23,567;

j. **double** num8 = $123.68;

k. **long** num9 = 28;

3. Use the ASCII chart to find the output of the following code:

**char** letter1 = 'J';

**char** letter2 = 'a';

**char** letter3 = 'v';

**char** letter4 = 'a';

System.out.print("The letters of the word ");

System.out.print(letter1);

System.out.print(letter2);

System.out.print(letter3);

System.out.println(letter4);

System.out.print("have ASCII positions ");

System.out.print((**int**)letter1 + ", ");

System.out.print((**int**)letter2 + ", ");

System.out.print((**int**)letter3 + " and ");

System.out.println((**int**)letter4);

4. Determine the exact output to the following code segment:

**int** sum1 = 10+5;

**double** sum2 = 10+5.0;

**int** quotient1 = 15/4;

**double** quotient2 = 15/4;

**double** quotient3 = 15/4.0;

**int** remainder1 = 15 % 4;

**double** remainder2 = 17.84 % 2.3;

System.out.println("10+5 is " + sum1);

System.out.println("10+5.0 is " + sum2);

System.out.println("15/4 is " + quotient1);

System.out.println("15/4 is " + quotient2);

System.out.println("15/4.0 is " + quotient3);

System.out.println("15 % 4 is " + remainder1);

System.out.println("17.84 % 2.3 is " + remainder2);