

1) For 1 to 5, provide the resultant value and data type.

	VALUE	DATA TYPE
a) $(\text{int})(74.6 + 67.2 / 14.4) \% 14$ $(\text{int})(74.6 + 4.66) \% 14$ $(\text{int})(79.26) \% 14 = 79 \% 14 = 9$	<u>9</u>	<u>int</u>
b) $(\text{double}) 55 / 4 - (\text{int}) 5.6 * 3$ $55.0 / 4 - 5 * 3$ $13.75 - 15 = -1.25$	<u>-1.25</u>	<u>double</u>
c) $(\text{char})(85 + 3 \% 14 - 92 / 7 \% 11)$ $(\text{char})(85 + 3 - 13 \% 11)$ $(\text{char})(88 - 7) = (\text{char}) 86 = 'V'$	<u>'V'</u>	<u>char</u>
d) $18 - 4 + 125 / 17 \% 6$ $14 + 7 \% 6$ $14 + 1 = 15$	<u>15</u>	<u>int</u>
e) $(\text{double})(34/8) + (\text{int}) 'V' / 11$ $(\text{double})(4) + 86 / 11$ $4.0 + 7$ <u>11.0</u>	<u>11.0</u>	<u>double</u>

2) Write what will show in the terminal window when the program below is executed. (Assume it runs.)

```

public class GuessIt
{
    public static char Abra(char ch)
    {
        char cadabra = (char) ((int) ch % 65 + 97);
        return cadabra;
    }
    public static void main(String[] args)
    {
        String str = "cat";
        System.out.println(str);
        str = "" + Abra('A');
        str = str + Abra('H');
        System.out.println(str);
    }
}

```

Handwritten notes and arrows:
 - Above 'H' in the code: 'H'
 - Above 'A' in the code: 'A'
 - Next to $(\text{char})(65 \% 65 + 97) = 'a'$: 'a'
 - Next to $(\text{char})(72 \% 65 + 97) = 'h'$: 'h'
 - Next to $(\text{char})(104)$: 'h'
 - Next to $\text{str} = "" + \text{Abra}('A');$: str = "a"
 - Next to $\text{str} = \text{str} + \text{Abra}('H');$: str = "ah"

1. cat
2. ah
3. -

3) Consider the program below:

```

/* 1 */ import java.util.Scanner;
/* 2 */ public class NamePrint
/* 3 */ {
/* 4 */     public static void main (String [] args)
/* 5 */     {
/* 6 */         String name;
/* 7 */         double age;
/* 8 */         Scanner ____Q1____ = new Scanner(____Q2____);
/* 9 */
/* 10 */        System.out.print("\nEnter your name -> ");
/* 11 */        name = keyinput.____Q3____();
/* 12 */
/* 13 */        System.out.print("\nEnter your age -> ");
/* 14 */        age = keyinput.____Q4____();
/* 15 */
/* 16 */
/* 17 */        System.out.printf("\nThanks! Your name is: %s\n", name);
/* 18 */        System.out.printf("Your age is: ____Q5____", age); // format to one
/* 19 */                                                                // decimal place
/* 20 */        int numLY = (int) (age / 4);
/* 21 */
/* 22 */        System.out.printf("\nThe number of leap years ");
/* 23 */        System.out.printf("during your life: ____Q6____\n", numLY);
/* 24 */
/* 25 */        System.out.print("\n");
/* 26 */    }
/* 27 */}

```

a. List what goes in each of the blanks:

Q1 keyinput (see line 11)

Q4 nextDouble() (see line 7)

Q2 System.in

Q5 %.1f

Q3 next() or nextLine()

Q6 %d

b. What is the output after line 16 if the user inputs **Diana** and **27**? (Assume it runs.)

- 1.
2. Thanks! Your name is: Diana
3. Your age is: 27.0
- 4.
5. The number of leap years during your life: 6 — cursor on line 6

c. What is the return type of the main method? (circle one)

There is none

String

public

static

[]

d. What line has a prompt for a decimal input?

14

e. In what line is an instance of an object (class) made?

8

f. In what line is a method called (**circle all that apply**)

8

10

11

17

20