

AM Computing Task 1 Specimen Marking Scheme

1	a	<pre>public static void main(String args[]) { Scanner sc = new Scanner(System.in); System.out.print("Enter length: "); double len = sc.nextDouble(); System.out.print("Enter height: "); double hei = sc.nextDouble(); double areaRec = len*hei; System.out.print("Area: "+areaRec); }</pre>	<p>Award 1 mark for the declaration of variables</p> <p>Award 1 mark for reading the input</p> <p>Award 1 mark for processing and outputting result</p>	3
	b	<pre>public static void main(String args[]) { Scanner sc = new Scanner(System.in); final pi = 3.142; System.out.print("Enter radius: "); double rad = sc.nextDouble(); double areaCircle = pi*rad*rad; System.out.print("Area: "+areaCircle); }</pre>	<p>Award 1 mark for the declaration of variables</p> <p>Award 1 mark for reading the input</p> <p>Award 1 mark for processing and outputting result</p> <p>Note: If instead of declaring a constant for 'pi' the actual value is listed within the output calculation (3.142*rad*rad) no marks are to be deducted.</p>	3
	c	<pre>public static void main(String args[]) { //Code from parts a and b if(areaCircle<areaRec) { System.out.println("The area of the rectangle is greater than that of the circle"); } else { System.out.println("The area of the circle is greater than that of the rectangle"); } }</pre>	<p>Award 2 marks for good use of the if statement</p>	2
	d	<pre>public static void main(String args[]) { //Code from parts a,b and c temp = areaCircle; areaCircle = areaRec; areaRec = temp; }</pre>	<p>Award 1 mark for declaration of a temporary variable for swapping purposes</p> <p>Award 1 mark for swapping of variable contents</p>	2
			Total	10
2	a	<pre>public static void main(String args[]) { Scanner sc = new Scanner(System.in); System.out.println("1. Addition"); System.out.println("2. Subtraction"); System.out.println("3. Multiplication"); System.out.println("4. Division"); System.out.println("5. Exit"); }</pre>	<p>Award 2 marks for making use of println and not print</p> <p>If print is used, this has to be used in conjunction with the appropriate escape character (\n)</p> <p>Note: Award 1 mark if print is used without the escape character</p>	2
	b	<pre>public static void main(String args[]) { //Code from part a System.out.print("Enter choice: "); int choice = sc.nextInt(); System.out.print("Enter value 1: "); double c = sc.nextDouble(); System.out.print("Enter value 2:"); double r = sc.nextDouble(); }</pre>	<p>Award 3 marks for making use of correct selection statement (i.e. switch statement is used, format is correct and correct symbols are used during the calculations)</p> <p>Award 1 mark for correct use of break statement</p> <p>Award 2 marks for making correct</p>	6

		<pre> switch(choice) { 1: System.out.println("Addition: "+(c+r)); break; 2: System.out.println("Subtraction: "+(c-r)); break; 3: System.out.println("Multiplication: "+(c*r)); break; 4: System.out.println("Division: "+(c/r)); break; default: System.out.println("Incorrect entry"); } </pre>	<p>use of default</p> <p>Note: Award 1 mark if the if statement is used instead of the switch statement</p>	
	c	<pre> public static void main(String args[]) { Scanner sc = new Scanner(System.in); do { //Code for parts a and b } while ((choice > 0) && (choice <=5)); } </pre>	<p>Award 2 marks if do... while statement is correctly used</p> <p>Note: Award 1 mark if there are minor mistakes in the implementation of the do...while</p> <p>Note: No marks should be awarded if any other repetition statement is used</p>	2
			Total	10
3	a	<pre> public static void main(String args[]) { Scanner sc = new Scanner(System.in); int n = 0; double s = 0.0; System.out.println("Enter n: "); n = sc.nextInt(); System.out.print("Terms: "); for(int i = 0; i<n; i++) { System.out.print(i, " "); s += i; } double a = s/n; System.out.println("Sum: "+s); System.out.println("Average: "+a); } </pre>	<p>Award 1 mark for use of for loop</p> <p>Award 1 mark for correct output</p> <p>Award 1 mark for correct use of the overloaded division operator (average)</p> <p>Note: 1 mark will be deducted from the 'Correct output' if the calculation of 's' is not cumulative.</p>	3
	b	<pre> public static void main(String args[]) { // Code for part a for(int i = 0; i<n; i++) { for(int j=0; j<n;j++) { System.out.print("*"); } System.out.println(); } } </pre>	<p>Award 2 marks for correct use of nested loop</p> <p>Award 1 mark for the correct use of print within the internal loop</p> <p>Award 1 mark for the correct use of a println statement or any variation to carriage return after each complete internal loop</p> <p>Note: Other loops should not be considered</p>	4
	c	<pre> public static void main(String args[]) { //Code for parts a and b int f = 1; if (n==0) </pre>	<p>Award 1 mark for correct use of if statement</p> <p>Award 1 mark for correct use of for loop</p>	3

	<pre>{ System.out.println("Ans: 1"); } else { for(int i = 1; i<n; i++) { f *= i; } System.out.print("Ans: "+f); } }</pre>	Award 1 mark for cumulative multiplication Note: If the shorthand notation is not used for the multiplication, no marks are to be deducted	
		Total	10