Test

Name:	

1. State what is meant by the term abstraction [1]

2. State what is meant by problem decomposition . [1]

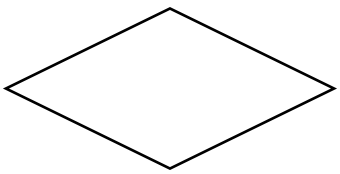
3. State two advantages of problem decomposition. [2]

4. State the name of the algorithm shown. [1]

```
x = [2,4,6,8,10]
f = False
n = 0
WHILE f == False AND n < LEN(x)
      IF x[n] == 8 THEN
            f = True
      n = n + 1
ENDWHILE
```

5. State a precondition for a binary search. [1]

6. Label each of the flow diagram symbols below in the middle of the symbol. [3]


7. Illustrate the first three steps of a bubble sort on the numbers: 5, 10, 7, 8 [3]

8. Illustrate the steps of a merge sort on the numbers: 8, 3, 9, 2 [4]

9. The following algorithm should output the t times table in the format:
   1 x 8 = 8
   2 x 8 = 16
   3 x 8 = 24
   … (up to 12x)

   Correct errors in the pseudocode and complete the output statement. [4]

```
t = INT(INPUT("Enter the times table you want to output:"))
FOR x = 1 TO 12
      p = t * t
      output statement using p needed here
NEXT x
```

PRINT( )

End of test

Total 20 marks