Name: Class: Mark:

1. The following pseudo-code prints out a pattern. In this pseudo-code, the statement

 **write("\*")** will print a star without moving to a new line. The statement

 **writeline()** will move to the start of a new line.

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| --- | --- |
| 1. Star ← 1
2. WHILE Star < 5
3. FOR n ← 1 TO Star
4. write("\*")
5. NEXT n
6. writeline()
7. Star ← Star + 1
8. ENDWHILE
 |  |

(a) Draw in the box beside the code the pattern that this program produces. [3]

(b) Give the line numbers of two lines that represent the programming construct “**Sequence**”. [2]

(c) Give the line numbers of two lines that represent the starts of iterations. [2]

(d) Write pseudo-code for a program that prints 5 lines in the pattern shown below. [5]

 X

 XXX

 XXXXX

 XXXXXXX

 XXXXXXXXX

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2. Write a pseudo-code algorithm which asks a user to enter a number between 5 and 20. If they enter a number outside this range, the program asks them repeatedly to re-enter the number until they enter a valid number.

 If a valid number **n** is entered, the program asks the user to enter **n** temperatures (all integer values), then calculates and outputs the average temperature. [8]

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 [Total 20 marks]