

KNOWLEDGE ORGANISER :: ANSWERING ALGORITHM QUESTIONS

Remember #1 !!

There will be **four algorithm** questions over the two paper
They will be worth **between 5 and 8 marks**

If the question says – plan an algorithm using pseudocode ...
YOU MUST WRITE PSEUDOCODE

If the question says – plan an algorithm to ...
You can chose between **PSEUDOCODE** or a **FLOWCHART**

REMEMBER #2 !!

Use this structure to plan your answer ...

Variables **(1 mark)**

Input command and prompt **(1 mark)**

Data type **(1 mark)**

Calculation using arithmetic operators **(1 mark)**

Print an output **(1 mark)**

Casting between data types **(1 mark)**

Selection **(1 mark)**

Iteration **(1 mark)**

Function name (parameters) **(1 mark)**

OPERATORS

==	The Same As	/	Divide
!=	Not Equals To	+	Add
>	Greater Than	*	Multiple
<	Less Than	-	Subtract
>=	Greater Than or Equals To	mod or %	Remainder Division
<=	Less Than or Equals To	div	Integer Division
		** or ^	Power Of

MODEL ANSWER

A school catering system uses swipe cards at the tills

When the student swipes their card, their balance is shown on the screen

The total for their meal is calculated

The total is taken off from their balance

If the resulting new balance is a positive number they can pay for their food and their new balance is saved

If the resulting new balance is a negative number, an error message is displayed on the screen

Use pseudocode to plan the algorithm for the school catering system

8 marks

```
balance = get balance for student
mealcost= input(float(enter the cost of the meal)
newbalance = balance - mealcost
if new balance > 0 :
    balance = newbalance
    print (£ + str(balance))
elif newbalance == 0
    print(error message)
else:
    print(error message)
ENDIF
```

1 mark for variable
1 mark for input
1 mark for data type
1 mark for calculation
1 mark for selection
1 mark for casting
1 mark for output
1 mark for error message

DATA TYPES

STR	String	This is a string of text
CHR	Character	C
FLOAT	Decimal Number	1.23
INT	Integer	5
BOOL	True or False	True

COMMANDS

x = Assign a value to the variable/constant x
list = [a, b, c] Assign values to the array list
INPUT Ask the user for an input
PRINT Print something on the screen
IF Start of a selection statement
ENDIF End of a selection statement
WHILE Start of a loop