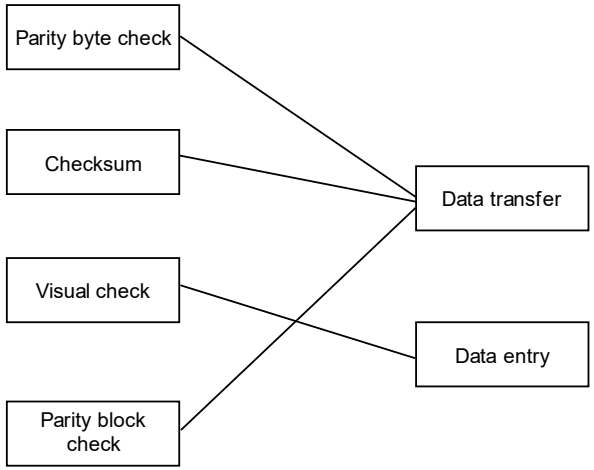
1	**1 mark** for 2 or 3 correctly connected verification method boxes, **2 marks** for all 4 correct **Verification Method** **Use** 

6(a)	Number: Any number where the first two digits sum to 5 / 15 **and** the last three digits are 623 Explanation: The remainder is the same / 3 // The sum of the (first four) digits is the same / 13

6(b)

Example solution – conversion of `Number` to a string

```
FUNCTION Generate(Number : INTEGER) RETURNS INTEGER
   DECLARE Total, Index, CheckDigit : INTEGER
   DECLARE NumString : STRING

   Total ← 0
   NumString ← NUM_TO_STR(Number)

   FOR Index ← 1 TO LENGTH(NumString)
      Total ← Total + STR_TO_NUM(MID(NumString,  Index,
1))
   NEXT Index

   CheckDigit ← Total MOD 10

   Number ← Number * 10 + CheckDigit
   // NumString ← Numstring & NUM_TO_STR(CheckDigit)
   RETURN Number // STR_TO_NUM(NumString)

ENDFUNCTION
```

Mark as follows:

1 Function heading, parameters return type and ending
2 Initialise `Total`
3 Convert `Number` to a string **and** loop for length of converted `Number`
4 attempt to form sum of digits **in a loop**
5 completely correct sum of digits **in a loop**
6 Calculate `CheckDigit`
7 Add `CheckDigit` to original number multiplied by 10 **and** return number //
Convert `CheckDigit` to a character and appended to `NumString` **and** then convert to a number and return

6(b)

Example Solution – no conversion to string

```
FUNCTION Generate(Number : INTEGER) RETURNS INTEGER
   DECLARE Total, CheckDigit, Remainder, Num: INTEGER

   Num ← Number
   Total ← 0
   WHILE Num > 0
      Remainder ← Num MOD 10
      Num ← Num DIV 10
      Total ← Total + Remainder
   ENDWHILE

   CheckDigit ← Total MOD 10

   Number ← Number * 10 + CheckDigit

   RETURN Number

ENDFUNCTION
```

Mark as follows:

1 Function heading, parameters return type and ending
2 Initialise `Total`
3 Loop while `Num > 0`
4 attempt to use MOD and DIV to sum successive digits in `Number`
5 completely correct sum of digits
6 Calculate `CheckDigit`
7 Add `CheckDigit` to original number **and** return number