

6

Loop Solution**Example solution:**

```

FUNCTION AdjustClock(ThisYear : INTEGER) RETURNS INTEGER
  DECLARE ThisDayNumber, SundayCount : INTEGER
  DECLARE ThisDate : DATE

  ThisDayNumber ← 0
  SundayCount ← 0
  REPEAT
    ThisDayNumber ← ThisDayNumber + 1
    ThisDate ← SETDATE(ThisDayNumber, 3, ThisYear)
    IF DAYINDEX(ThisDate) = 1 THEN
      SundayCount ← SundayCount + 1
    ENDIF
  UNTIL SundayCount = 3
  RETURN ThisDayNumber
ENDFUNCTION

```

Mark as follows:

- MP1** Function heading, parameter, ending and return type
- MP2** Declare local integer variable that is used to create a date
- MP3** Loop until 3rd Sunday found
- MP4** Attempt to use both SETDATE() and DAYINDEX() in a loop
- MP5** Correctly generate value of type DATE using SETDATE() in a loop
- MP6** Test if value represents a Sunday using DAYINDEX() in a loop
- MP7** Increment Sunday count in a loop and initialised correctly before loop
- MP8** Return day number of third Sunday

Max 7 marks**Non-loop solution****Example solution:**

```

FUNCTION AdjustClock(ThisYear : INTEGER) RETURNS INTEGER
  DECLARE FirstDayIndex: INTEGER
  DECLARE ThisDate : DATE

  ThisDate ← SETDATE(1, 3, ThisYear)
  FirstDayIndex ← DAYINDEX(ThisDate)
  IF FirstDayIndex = 1 THEN
    ThirdSunday ← FirstDayIndex + 14 //First day is
                                     Sunday
  ELSE
    ThirdSunday ← 23 - FirstDayIndex // Other days
  ENDIF
  RETURN ThirdSunday
ENDFUNCTION

```

6	Mark as follows: MP1 Function heading, parameter, ending and return type MP2 Declare local integer variable that is used to hold a day number MP4 Attempt to use both <code>SETDATE ()</code> and <code>DAYINDEX ()</code> MP5 Correctly generate value of type <code>DATE</code> using <code>SETDATE ()</code> for first of March / specific day in March MP6 Test if date represents a Sunday / specific day using <code>DAYINDEX ()</code> and calculate third Sunday // Correctly calculate third Sunday for a value returned by <code>DAYINDEX ()</code> for one day MP7 Calculate third Sunday for other six days MP8 Return day number of third Sunday Max 7 marks
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