006 An algorithm a day…

Algorithm Question

Source: OCR GCSE Computing Exam June 2012

A taxi firm charges £3 for the first mile and £2 for every mile after that. If there are 5 or more passengers, an extra 50% is added to the price.
Write an algorithm in pseudocode which calculates the cost of a journey.
The algorithm should:

- Ask the user to enter the number of passengers
- Ask the user to enter the distance (as an integer)
- Calculate the price of the journey
- Output the price on the screen

[7 marks]

Algorithm Example Answer

Write an algorithm in pseudocode which:

[marks]

*****There are always different ways to solve a problem. This algorithm is just an example. What is important is that the logic is correct!*****

LOGIC:

- **Inputs distance and passengers**
- **Calculates distance – 1 (or equivalent)**
- **Calculates previous answer * 2(or equivalent)**
- **Calculates previous answer + 3**
- **Checks if more than 4 passengers…**
- **… and adds 50% correctly**
- **Outputs cost**

EXAMPLE ALGORITHM:

```
INPUT Distance
INPUT Passengers
Extra = Distance - 1
CostofExtra = Extra * 2
Cost = 3 + CostofExtra
IF Passengers > 4 THEN
    Surcharge = Cost / 2
    Cost = Cost + Surcharge
END IF
OUTPUT COST
```