Q1. Beth is planning a trip for a group of 36 people.
The group can go to a theme park **or** to a concert.

If they go to the concert, they will go by train.
If they go to the theme park, they will go by coach.

Beth has information about the costs.

Theme Park Ticket Prices

£9 per person

or £6.50 per person

in a group of 10 or more people

Coach Hire

24 seats	£260
40 seats	£320
54 seats	£410

Concert Ticket Price

£7.50

Return Train Fares

£8.25 each

or

£26.50 for each group of 4 people

What is the least possible total cost of the trip?
You must show all your working.

(Total 5 marks)

M1.

Working	Answer	Mark	Additional Guidance
6.50 × 36 = 234 234 + 320 = 554 36 ÷ 4 = 9 26.50 × 9 = 238.50 36 × 7.50 = 270 270 + 238.5 = 508.5 OR 320 ÷ 36 = 8.88(9) 8.88(9) + 6.50 = 15.38(9) 26.50 ÷ 4 = 6.62(3) 6.62(3) + 7.50 = 14.12(3) 14.12(3) × 36 = 508.50	£508.50	5	**M1** for using 36 × correct entrance price, 36 × 7.50 or 36 × 6.50 **M1** for using correct travel cost, 320 or "36 ÷ 4" × 26.50 (238.50) [condone 320 for concert and "36 ÷ 4" × 26.50 (238.50) for theme park] **A1** for 554 cao **A1** for 508.5 cao C1 ft for identifying, in words, the cheaper venue from 2 calculated amounts. One amount must be for the theme park and one amount must be for the concert [Note: the 2 calculated amounts must each be of ticket plus travel costs] OR **M1** for 320 ÷ 36 [= 8.88(9)] or 26.50 ÷ 4 = [6.62(3)] **A1** for 15.38(9) or 14.12(3) **M1** for "14.12(3)" × 36 **A1** for 508.5 **C1** ft for identifying, in words, "the cheaper cost per student gives the least total cost".
			Total for Question: 5 marks

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Students understanding of the demands of QWC (Quality of Written Communication) is still very weak. Whilst calculations were often accurate, few were able to adequately write a concluding statement to their solution.

Theme Park calculations were often thwarted by a misunderstanding of the ticket pricing; many thinking that tickets for each group of 10 cost a total of £6.50 or working out 30 lots of £6.50 and then adding £54 (£9 × the remaining 6). The coach hire of £320 was usually correctly identified. In the calculations for the concert trip, the total ticket cost (£270) was usually found, but many candidates were unable to understand the costing of the train travel.

Some candidates mixed the method of travel with the wrong trip. Some credit was still available here for correct methods to find the separate costs.