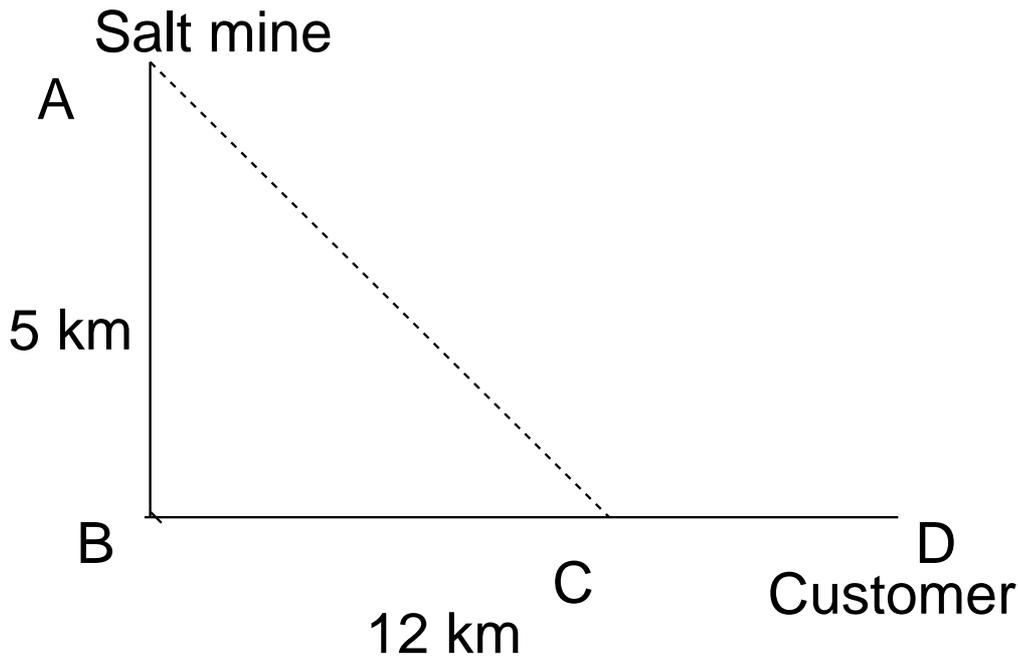


Math 113 Homework 3

Due: 15 November 2005 Tuesday.

Q-1) We have a salt mine 5km inland from a straight coast line, (see figure.) Our customer is located 12km away along the coast. The cost of transportation along the coast is α times more expensive than that on land. Find the optimal path of transportation which minimizes our cost. Note that $\alpha \geq 0$ and the answer depends on α .



Q-2) (Page 195, Exercise 12)

Q-3) (Page 195, Exercise 14)

Q-4) (Page 196, Exercise 23)

Q-5) (Page 196, Exercise 25)

Note that the book has the answers but not the solutions. Show in detail how you solve these problems.

Comments and questions to sertoz@bilkent.edu.tr