
Desert Crossing

Problem Description

You are planning to cross a desert 2400 km wide in a special desert vehicle.

- The vehicle can travel 12 km on 1 litre of fuel.
- It has a 60 litre tank and can carry at most four 20 litre cans.
- The only source of fuel and cans is at the base at the start of the desert. Fuel and cans at the base are not limited.

Task

Write a report giving your answers to the following:

1. Using the vehicle without refuelling, how far into the desert can you *safely* go?
2. Describe a procedure whereby you could cross the desert in the vehicle.
3. Describe a procedure whereby you could cross the desert and return in the vehicle.
4. Describe a procedure whereby you could cross the desert in the vehicle using the minimum amount of fuel.
5. Describe a procedure whereby you could cross the desert and return in the vehicle using the minimum amount of fuel.

Relates to Objectives

1.2 2.1 2.2 2.3 2.4 2.5 2.7 2.9 2.10 4.2 4.7 4.8

(3 points, Group)