

When I park my car in Mathstown, there are two car parks to choose from.

In car park A, it costs 80p to park for the first hour, and an extra 50p for each hour after that.

In car park B, it costs £1.50 to park for the first hour, and an extra 30p for each hour after that.

Which car park should I use?

There is a Park and Ride service where it costs 40p per hour to park, but you also have to pay 60p for the bus fare into town.

Alternatively, I could park for free at the railway station and get the train to Mathstown - a return ticket costs £3.50.

What advice would you give me if I was trying to decide whether to use one of the car parks, the Park and Ride, or the train?

Here are some challenges to try.

Can you work out what the charging structure might be in each case?

- Two car parks A and B, such that car park A is cheaper if you park for less than 5 hours and car park B is cheaper if you park for more than 5 hours.
- Three car parks C, D and E, such that car park C is cheapest if you park for less than 2 hours, car park D is cheapest if you park for between 2 and 6 hours, and car park E is cheapest if you park for more than 6 hours.
- Three car parks F, G and H, such that car park F is cheapest if you park for less than 3 hours, car park G is the cheapest if you park for more than 3 hours, and car park H is never cheapest.
- Three car parks I, J and K, such that car park I is always cheaper than car parks J and K, regardless of how long you park.