Exercise 19

A car rental company offers two plans for renting a car.

- Plan A: $25 per day and $0.10 per mile

- Plan B: $40 per day with free unlimited mileage

How many miles would you need to drive for plan B to save you money?

Solution

Let d represent the number of days the car is rented for, and let m be the number of miles driven. Write an equation for the cost of each plan.

$$P_A(d, m) = 25d + 0.10m$$

$$P_B(d) = 40d$$

Find where Plan A is more expensive.

$$P_A(d, m) > P_B(d)$$

$$25d + 0.10m > 40d$$

$$0.10m > 15d$$

$$m > 150d$$

Divide both sides by d to get the number of miles per day.

$$\frac{m}{d} > 150$$

Therefore, if you drive more than 150 miles per day on average, Plan B is less expensive.