APPLICATIONS OF LINEAR SYSTEMS

1. The cost of operating a gas-powered car is $0.90/km. The cost of operating an electric car is $0.30/km plus a fixed cost of $2400. The costs can be modeled with the following equations.

$$\text{Gas Car:} \quad c = 0.90d$$
$$\text{Electric Car:} \quad c = 0.30d + 2400$$

a) What does each variable represent?

b) Use substitution or elimination to solve the equations.

c) What does the point of intersection represent?

d) Which type of car is more economical for driving 3000 km?