Modelli lineari 3 (aprile 2016)
Mario Puppi

1. Search and rescue team. Search ans rescue teams work to find lost hikers. Members of the search team separate and walk parallel to one another through the area to be esarched.

Table shows the percent P of lost individual found for some distances d of the searchers.
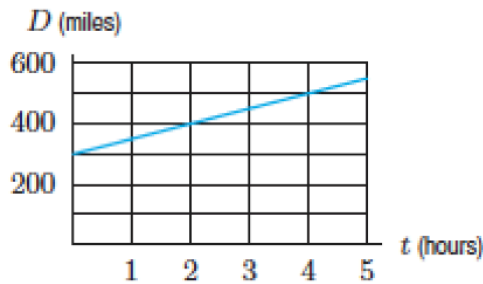
d	20	40	80	100
P	90	80	60	50

1.1 Explain how you know that P could be a linear function of d.

1.2 Find P as a linear fnction of d.

1.3 Find d as a linear fnction of P.

2. The trip. Graph shows the distance D from home, in miles, of a person on a trip. The entire duration of the trip is 5 hours.

2.1 Estimate the distance from home at the beginning of the trip.

2.2. Estimate how much distance is increased after 1 hour.

2.3. Give a formula for the distance D, in miles, as a function of the time t in hours.

3. Annual sales of music compact discs (CDs) have clined since 2000. Sales were 942.5 million in 2000 and 384.7 million in 2008.

3.1 Find a formula for annual sales S, in million, of music CDs, as a linear function of time t, in years since 2000.

3.2 Use the formula to predict the sales in 2016.

3.3 Use the formula to predict the year in which sales will go below 100 million.

4. Waste collection. In a Wyoming town, the monthly charge for waste collection is $8 for 32 gallons of waste and $12.32 for 68 gallons of waste.

4.1. What is the cost for 33 gallons of waste collection?

4.2. What is the cost for 34 gallons of waste collection?

4.3. Find a linear formula for the cost C of waste collection as a function of the number of gallons of waste.

4.4. Find a linear formula for the number G of gallons of waste as a function of the cost C of waste collection.