CHEMISTRY ONLINE
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PURE MATH

ALGEBRA AND FUNCTION

Level & Board	EDEXCEL (A-LEVEL)
TOPIC:	LINEAR MODAL
PAPER TYPE:	QUESTION PAPER - 2
TOTAL QUESTIONS	8
TOTAL MARKS	44

Questions

Q1.

Suppose you deposit money into a savings account. The balance, measured In thousands of dollars, is recorded after a certain duration of time. For this particular account, the balance was $20,000 after 1 year and $35,000 after 4 years.

(5)

(Total for question = 5 marks)

Q2.

Suppose a tree was planted, and its height H (in meters) was measured t (in years) after planting. The height of the tree was 1.5 meters after 2 years and 4 meters after 5 years.

(5)

(Total for question = 5 marks)

Q3.

Suppose the population P of a city (in thousands) is measured t (in years) after a census was taken. The population was 50,000 after 2 years and 90,000 after 8 years.

(4)

(Total for question = 4 marks)

Q4.

Let's create a linear model for a car's value V (in thousands of dollars) as it depreciates over time. We know that the car's value was $18,000 after 2 years and $12,000 after 5 years.

(5)

(Total for question = 4 marks)

Q5.

Suppose a rocket is launched into the sky and its altitude is measured over time. The rocket was at 5 kilometers at 10 seconds and 20 kilometers at 30 seconds.

(4)

(Total for question = 4 marks)

Q6.

Suppose a company produces a certain product, and the production cost C (in thousands of dollars) is measured t (in months) after the start of production. The production cost was $50,000 after 3 months and $120,000 after 9 months.

(4)

(Total for question = 4 marks)

Q7.

Suppose we want to create a linear model for the growth of a plant's height in centimeters over time in months after planting. Let's call the plant's height H and the time elapsed t. After 4 months, the plant's height was centimeters, and after 10 months, it was 65 centimeters.

(5)

(Total for question = 5 marks)

Q8.

A tree was planted in the ground.
Its height, H metres, was measured t years after planting.
The tree's height was exactly 2.35 metres after 3 years of planting, and 3.28 metres after 6 years of planting.
Using a linear model,
(a) find an equation that links H with t.
The height of the tree was approximately 140 cm when it was planted.

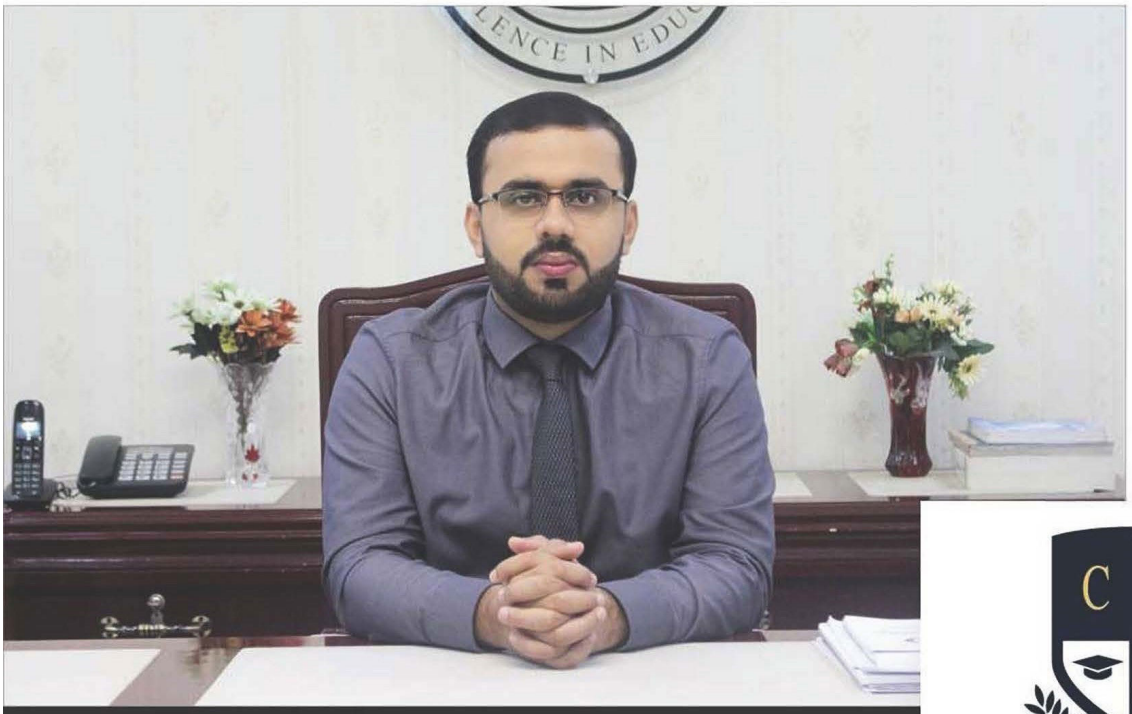
(3)

(b) Explain whether or not this fact supports the use of the linear model in part (a).

(2)

(Total for question = 5 marks)

I am Sorry !!!!!



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- Founder & CEO of Chemistry Online Tuition Ltd.
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