RD SHARMA
Solutions
Class 8 Maths
Chapter 14
Ex 14.4



Solution:

P = Initial population = 50000
=4%
= 5%
= 3%
n = Number of years = 3
Therefore, Population after three years =
=
= 50000 (1.04) (1.05) (1.03)
= 56238
Hence, the population after three years will be 56238.
Q5) There is a continuous growth in the population of a village at the rate of 5% per annum. If its present population is 9261, what it was 3 years ago?
Solution:
Population after three years =
9261 =
= 9261
P =
P = 8000
Thus, the population three years ago was 8000.
Q6) In a factory the production of scooters rose to 46305 from 40000 in 3 years. Find the annual rate of growth of the production of scooters.
Solution:
Let the annual rate of growth be R.
Therefore, Production of scooters after three years =
46305 =
1 + 0.01R = 1.05
0.01R = 0.05
R = 5
Thus, the annual rate of growth is 5%.
Q7) The annual rate of growth in the population of a certain city is 8%. If its present population is 196830, what it was 3 years ago?
Solution:
Population after three years =
196830 =
196830 =
P =
= 156250
Thus, the population three years ago was 156250.
Q8) The population of a town increases at the rate of 50 per thousand. Its population after 2 years will be 22050. Find its present population.

Here,

Solution:

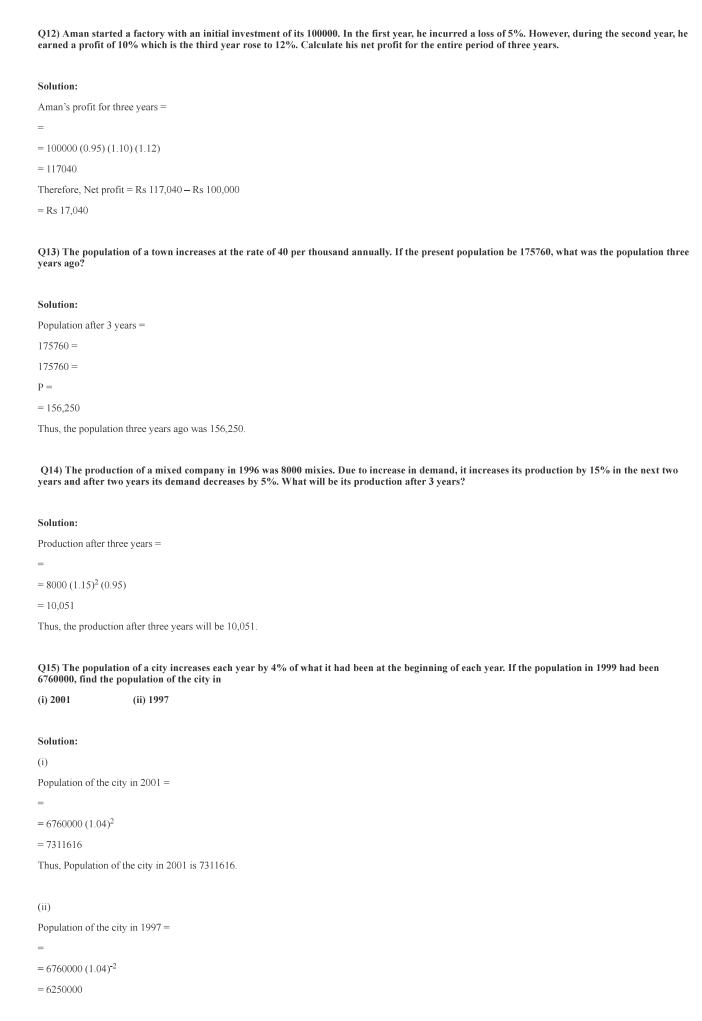
Population after three years =

22050 =
P =
= 20000
Thus, the population three years ago was 20000.
Q9) The count of bacteria in a culture grows by 10% in the first hour, decreases by 8% in the second hour and again increases by 12% in the third hour. If the count of bacteria in the sample is 13125000, what will be the count of bacteria after 3 hours?
Solution:
Given:
= 10%
=-8%
= 12%
P = Original count of bacteria = 13125000
We know that:
Therefore, Bacteria count after three hours =
= 13125000 (1.10) (0.92) (1.12)
= 14,876,400
Thus, the bacteria count after three hours will be 14,876,400.
Q10) The population of a certain city was 72000 on the last day of the year 1998. During next year it increased by 7% but due to an epidemic, it
decreased by 10% in the following year. What was its population at the end of the year 2000?  Solution:
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22050 =

Therefore, 25% of 3,600 = 900

Number of workers at the end of the third year = 3,600 + 900 = 4,500Thus, the number of workers during the fourth year was 4,500.



Thus, Population of the city in 1997 is 6250000.

Q16) Jitendra set up a factory by investing Rs 2500000. During the first two successive years, his profits were 5% and 10% respectively. If each year the profit was on previous year's capital, compute his total profit.

## **Solution:**

Profit at the end of the first year =
=
= 2,500,000 (1.05)
= 2,625,000

Profit at the end of the second year =
=
= 2,625,000 (1.1)
= 2,887,500

Total profit = Rs 2,887,500 - Rs 2,500,000 = Rs 387,500