RS Aggarwal Solutions for Class 8 Maths Chapter 11 Exercise 11.3: RS Aggarwal Solutions for Class 8 Maths Chapter 11 Exercise 11.3 helps students understand how to solve problems involving compound interest. This exercise covers different situations where compound interest is calculated, like varying interest rates and different compounding periods.

Each solution is broken down into simple steps, making it easier for students to follow and understand. By practicing these exercises students can get better at calculating compound interest and apply these skills to real-life financial problems.

RS Aggarwal Solutions for Class 8 Maths Chapter 11 Exercise 11.3 Overview

RS Aggarwal Solutions for Class 8 Maths Chapter 11 Exercise 11.3 focuses on advanced problems related to compound interest. This exercise explores various scenarios where compound interest is applied, including different compounding intervals such as annually, semi-annually, and quarterly. It guides students through complex calculations by breaking them down into manageable steps.

Each problem is solved with clear explanations and detailed solutions, helping students understand how interest compounds over time and how to apply the formulas correctly. Mastering this exercise enhances students ability to handle real-world financial calculations involving compound interest.

RS Aggarwal Solutions for Class 8 Maths Chapter 11 Exercise 11.3 PDF

RS Aggarwal Solutions for Class 8 Maths Chapter 11 Exercise 11.3 PDF is available below. This PDF provides comprehensive solutions and detailed explanations for the problems related to compound interest in this exercise.

By referring to this PDF, students can gain a clearer understanding of how to solve complex compound interest problems, ensuring they can handle various scenarios involving different compounding intervals.

RS Aggarwal Solutions for Class 8 Maths Chapter 11 Exercise 11.3 PDF

RS Aggarwal Solutions for Class 8 Maths Chapter 11 Exercise 11.3 (Ex 11C)

RS Aggarwal Solutions for Class 8 Maths Chapter 11 Exercise 11.3 are available below. This resource provide detailed solutions and explanations for problems related to operations on compound interest.

(1) Find the amount and the compound interest on Rs 8000 for 1 year at 10% per annum, compounded half-yearly.

Solution: Here, principal = Rs 8000, rate = 10% p.a. = 5% per half-year.

Time = 1 year = 2 half years

$$\therefore \text{Amount} = \text{Rs}\left[8000 \times \left(1 + \frac{5}{100}\right)^2\right]$$

$$= \text{Rs}\left(8000 \times \frac{105}{100} \times \frac{105}{100}\right)$$

$$= \text{Rs } 8820$$

∴ Compound interest = Rs (8820 – 800) = Rs 820.

(2) Find the amount and the compound interest on Rs 31250 for 1(1/2) years at 8% per annum, compounded half-yearly.

Solution: Here, principle = Rs 31250, rate = 8% per annum = 4% per half-

$$\text{year. Time} = 1\frac{1}{2}\ years = 3\ half - years$$

$$\therefore \text{Amount} = \text{Rs}\left[31250 \times \left(1 + \frac{4}{100}\right)^3\right]$$

$$= \text{Rs}\left(31250 \times \frac{104}{100} \times \frac{104}{100} \times \frac{104}{100}\right)$$

$$= \text{Rs } 35152$$

∴ Compound interest = Rs (35152 – 31250) = Rs 3902.

(3) Find the amount and the compound interest on Rs 12800 for 1 year at 7(1/2)% per annum, compounded semi-annually.

Solution: Here, principal = Rs 12800; Time = 1 year = 2 half-years;

$$\text{Rate} = \frac{15}{2}\% \text{ per annum} = \frac{15}{4}\% \text{ per half-year.}$$

$$\therefore \text{Amount} = \text{Rs}\left[12800 \times \left(1 + \frac{15}{4\times100}\right)^2\right]$$

$$= \text{Rs}\left(12800 \times \frac{415}{100} \times \frac{415}{100}\right)$$

$$= \text{Rs}\left(12800 \times \frac{83}{80} \times \frac{83}{80}\right)$$

$$= \text{Rs } 13778$$

$\therefore$ Compound interest = Rs (13778 – 12800) = Rs 978

(4) Find the amount and the compound interest on Rs 160000 for 2 years at 10% per annum compounded half-yearly.

Solution: Here, principal = Rs 160000; rate = 10% per annum = 5% per half-year; Time = 2 years = 4 half years.

$$\therefore \text{Amount} = \text{Rs}\left[160000 \times \left(1+\frac{5}{100}\right)^4\right]$$

$$= \text{Rs}\left[160000 \times \left(1+\frac{1}{20}\right)^4\right]$$

$$= \text{Rs}\left(160000 \times \frac{21}{20} \times \frac{21}{20} \times \frac{21}{20} \times \frac{21}{20}\right)$$

$$= \text{Rs}\ 194481$$

∴ Compound interest = Rs (194481 – 160000) = Rs 34481.

(5) Swati borrowed Rs 40960 from a bank to buy a piece of land. If the bank charges 12(1/2)% per annum, compounded half-yearly, what amount will she have to pay after 1(1/2) years? Also, find the interest paid by her.

Solution: Here, principal = Rs 40960;

$$\text{Rate} = \frac{25}{2}\% \text{ per annum} = \frac{25}{4}\% \text{ per half-year;}$$

$$\text{Time} = 1\frac{1}{2} \text{ years} = 3 \text{ half-years.}$$

$$\therefore \text{Amount} = \text{Rs}\left[40960 \times \left(1+\frac{25}{4\times100}\right)^3\right]$$

$$= \text{Rs}\left[40960 \times \left(1+\frac{1}{16}\right)^3\right]$$

$$= \text{Rs}\left(40960 \times \frac{17}{16} \times \frac{17}{16} \times \frac{17}{16}\right)$$

$$= \text{Rs}\ 49130$$

∴ Compound interest = Rs (49130 – 40960) = Rs 8170.

(6) Mohd, Aslam purchased a house from Avas Vikas Parishad on credit. If the cost of the house is Rs 125000 and the Parishad charges interest at 12% per annum compounded half-yearly, find the interest paid by Aslam after a year and half.

Solution: Here, principle = Rs 125000; rate = 12% per annum = 6% per half-year;

$$\text{Time} = 1\frac{1}{2}\text{ year} = 3\text{ half-year.}$$

$$\therefore \text{Amount} = \text{Rs}\left[125000 \times \left(1 + \frac{6}{100}\right)^3\right]$$

$$= \text{Rs}\left(125000 \times \frac{106}{100} \times \frac{106}{100} \times \frac{106}{100}\right)$$

$$= \text{Rs } 148877$$

∴ Compound interest = Rs (148877– 125000) = Rs 23877.

(7) Sheela deposited Rs 20000 in a bank, where the interest is credited half-yearly. If the rate of interest paid by the bank is 6% per annum, what amount will she get after 1 year?

Solution: Here, principle = Rs 20000, rate = 6% per annum = 3 % per half year, time = 1 year = 2 half years

$$\therefore \text{Amount} = \text{Rs}\left[20000 \times \left(1 + \frac{3}{100}\right)^2\right]$$

$$= \text{Rs}\left(20000 \times \frac{103}{100} \times \frac{103}{100}\right)$$

$$= \text{Rs } 21218$$

∴ Compound interest = Rs (21218 – 20000) = Rs 1218

(8) Neeraj lent Rs 65536 for 2 years at 12(1/2)% per annum, compounded annually. How much more could he earn if the interest were compounded half-yearly?

Solution: Here, principle = Rs 65536; time = 2 years = 4 half-years;

$$\text{Rate} = \frac{25}{2}\% \text{ per annum} = \frac{25}{4}\% \text{ per half-year;}$$

$$\therefore \text{Amount} = \text{Rs}\left[65536 \times \left(1 + \frac{25}{4\times100}\right)^4\right]$$

$$= \text{Rs}\left[65536 \times \left(1 + \frac{1}{4\times4}\right)^4\right]$$

$$= \text{Rs}\left(65536 \times \frac{17}{16} \times \frac{17}{16} \times \frac{17}{16} \times \frac{17}{16}\right)$$

$$= \text{Rs}\ 83521$$

∴ Compound interest = Rs (83521 – 65536) = Rs 17985

When, the interest is compounded yearly is given by,

$$= \text{Rs}\left[65536 \times \left(1 + \frac{25}{2\times100}\right)^2\right]$$

$$= \text{Rs}\left[65536 \times \left(1 + \frac{1}{2\times4}\right)^2\right]$$

$$= \text{Rs}\left(65536 \times \frac{9}{8} \times \frac{9}{8}\right)$$

= Rs 82944

∴ Compounded interest = Rs (82944 – 65536) = Rs 17408

Therefore, difference between half yearly and yearly = Rs (17985 – 17408) = Rs 577.

(9) Sudershan deposited Rs 32000 in a bank, where the interest is credited quarterly. If the rate of interest be 5% per annum, what amount will he receive after 6 months?

Solution: Here, principal = Rs 32000; Time = 6 months = 2 quarter years;

$$\text{Rate} = 5\% \text{ per annum} = \frac{5}{4}\% \text{ quarter-years,}$$

$$\therefore \text{Amount} = \text{Rs}\left[32000 \times \left(1 + \frac{5}{4\times100}\right)^2\right]$$

$$= \text{Rs}\left[32000 \times \left(1 + \frac{1}{4\times20}\right)^2\right]$$

$$= \text{Rs}\left(32000 \times \frac{81}{80} \times \frac{81}{80}\right)$$

$$= \text{Rs } 32805$$

(10) Arun took a loan of Rs 390625 from, Kuber Finance. If the company charges interest at 16% per annum, compounded quarterly, what amount will discharge his debt after one year?

Solution: Here, principle = Rs 390625; rate = 16% per annum = 4% per quarter-years, Time = 1 year = 4 quarter-years

$$\therefore \text{Amount} = \text{Rs}\left[390625 \times \left(1 + \frac{4}{100}\right)^4\right]$$

$$= \text{Rs}\left[390625 \times \left(1 + \frac{1}{25}\right)^4\right]$$

$$= \text{Rs}\left(390625 \times \frac{26}{25} \times \frac{26}{25} \times \frac{26}{25} \times \frac{26}{25}\right)$$

$$= \text{Rs } 456976$$

Benefits of RS Aggarwal Solutions for Class 8 Maths Chapter 11 Exercise 11.3

- **Clear Understanding**: The solutions provide detailed steps and explanations, helping students understand the process of calculating compound interest, including different compounding periods.
- **Problem-Solving Skills**: By working through the solutions, students can enhance their problem-solving abilities and learn various techniques for solving compound interest problems.
- **Concept Reinforcement**: The exercise helps reinforce key concepts of compound interest, such as calculating principal, amount, and interest over different compounding intervals.
- **Practice and Preparation**: It offers ample practice problems that prepare students for exams by familiarizing them with various types of questions they might encounter.
- **Error Correction**: The detailed solutions help students identify and correct their mistakes, ensuring a better grasp of the subject.