Grade 8 Mathematics Worksheet

Number patterns and growth exponential

Questions:

1. The table shows information about a company's policy on their salary scales. The policy is based on the number of years that the employee has been working for the company.

    What will an employee be earning who has been employed for 10 years?

Years of employment	Annual salary package
Starting Salary	R185 000
1	R203 500
2	R223 850
3	R246 235

    A)   R360 247,35
    B)   R351 500,00
    C)   R479 842,35
    D)   R590 256,98

Solution

1. If we look for pattern here, it becomes obvious that the increase from year to year is not linear. Investigating the increase, we see that every year the salary will increase by 10%. The increase will be a factor of $(1,1)^{10}$. This then means that R185 000 as a starting salary becomes $185\,000(1,1)^{10}$=R479 842,35. Answer is (C).

Expressing and exploring the relationship recursively is a skill that most learners already possess. Learners need to investigate how the growth in this sequence of salaries is happening. Here the tools are not suggested.