

Subject – Math AA(Standard Level)
Topic – Number and Algebra
Year – May 2021 – Nov 2022
Paper -2
Questions

Question 1

[Maximum mark: 6]

On 1st January 2020, Laurie invests \$ P in an account that pays a nominal annual interest rate of 5.5%, compounded quarterly.

The amount of money in Laurie's account at the end of each year follows a geometric sequence with common ratio, r .

- (a) Find the value of r , giving your answer to four significant figures. [3]

Laurie makes no further deposits to or withdrawals from the account.

- (b) Find the year in which the amount of money in Laurie's account will become double the amount she invested. [3]

Question 2

[Maximum mark: 6]

A metal sphere has a radius 12.7 cm.

- (a) Find the volume of the sphere expressing your answer in the form $a \times 10^k$, $1 < a < 10$ and $k \in \mathbb{Z}$. [3]

The sphere is to be melted down and remoulded into the shape of a cone with a height of 14.8 cm.

- (b) Find the radius of the base of the cone, correct to 2 significant figures. [3]

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Robert R. Redfield



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