

# Applications & Interpretation SL › Paper 2

Questions: 5 | Time: 90min | Marks: 80

## Question 1

[Maximum mark: 13]

On September 1st, an orchard commences the process of harvesting 36 hectares of apple trees. At the end of September 4th, there were 30 hectares remaining to be harvested, and at the end of September 8th, there were 24 hectares remaining. Assuming that the number of hectares harvested each day is constant, the total number of hectares remaining to be harvested can be described by an arithmetic sequence.

1. Find the number of hectares of apple trees that are harvested each day. [3]
2. Determine the number of hectares remaining to be harvested at the end of September 1st. [1]
3. Determine the date on which the harvest will be complete. [2]

In 2021 the orchard sold their apple crop for \$220 000. It is expected that the selling price will then increase by 3.2% annually for the next 7 years.

4. Determine the amount of money the orchard will earn for their crop in 2026. Round your answer to the nearest dollar. [3]
5.
  1. Find the value of  $\sum_{n=1}^8 (220\,000 \times 1.032^{n-1})$ . Round your answer to the nearest integer.
  2. Describe, in context, what the value in part (c) (i) represents. [3]
6. Comment on whether it is appropriate to model this situation in terms of a geometric sequence. [1]

# Mathematics Sl Paper 2 Tzm08

**RS Peters**



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