

Lesson 1.2: Arithmetic Series**Explore Your Understanding Assignment**

This assignment includes multiple choice and short answer questions. For multiple choice questions, select the best answer. Each is worth 1 mark. Marks assigned to short answer questions are indicated for each question. Be sure to show all necessary work.

- ① _____ 1. Determine the sum of the arithmetic series $8 + 15 + 22 + \dots + 113$.
- A. 16
B. 158
C. 908
D. 968
- ① _____ 2. Determine the sum of the arithmetic series $19.5 + 14 + 8.5 + \dots + t_{24}$.
- A. -1050
B. -1116
C. -2100
D. -2232
- ① _____ 3. Determine the value of t_1 for an arithmetic sequence, where $d = -4$ and $S_{14} = 1\,120$.
- A. 106
B. 132
C. 136
D. 216

4. Aron is training for a 10 km marathon swim in 18 weeks. Each week, his training plan includes a long distance swim. Over the first 6 weeks, Aron swam a total of 18.75 km. Over the first 10 weeks, Aron swam a total of 36.25 km. Each week, Aron increased the distance he swam following an arithmetic sequence until the final week.

②

- a. By what distance did Aron increase his total swimming each week?

①

- b. Determine the distance Aron swam in the first week of training.

- ① c. Determine how far Aron swam over the 18-week training program.

- ① d. What assumption is made in order to answer part c.?
