

Review Questions

Variables and Algorithms

Q1a. If you run a *10km* race in *42 minutes and 42 seconds*, what is your average speed in miles per hour.

Note: 1 mile = 1.61 km

Expected Answer:

8.725995316159251

Q1b. If you run a *10km* race in *42 minutes and 42 seconds*, what is your average speed in miles per hour rounded to *2 decimal places*

Note: 1 mile = 1.61 km

Expected Answer:

8.73

Q2. Your younger sister collected 1,273 marbles last year. On her 17 birthday, she decides to divide these marbles among 17 of her friends. If each friend receives an equal number of marbles, how many marbles would they each get? How many would you have left over?

Expected Answer:

74

15

Q3. Many important number series in Maths generate their next term by making use of the previous terms after defining their first 2 terms
For example, the Fibonacci series has the first 2 terms: 0, 1

Producing the Series:

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, ...

Where the 3rd term (1) is the sum of the first 2 ($0 + 1$)

And the 4th term is the sum of the 2nd and 3rd ($1 + 1$)

And so on...

And there are many other series defined in a similar manner, e.g. Lucas Series, beginning with 2 and 1

Producing the Series:

2, 1, 3, 4, 7, 11, 18, 29, 47, 76, 123, ...

Your job is to write a program that takes the first 2 numbers of the sequence and generates the next 5