

6. Mateo is planning a cycling trip around Italy. The route he is planning is 1856.3 kilometers. This value would be stored in a computer system using ‘floating-point representation’ as shown below.

$$0.18563 \times 10^4$$

- (a) Identify the mantissa and exponent in the above floating-point representation.

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Mantissa \_\_\_\_\_

Exponent \_\_\_\_\_

- (b) During the trip Mateo uses his smartphone to track his route.

Describe how he could reduce the energy use of his device to ensure the battery lasts as long as possible.

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