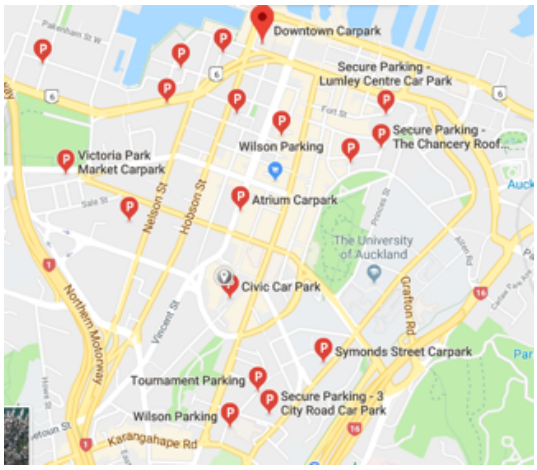
Notes for parents (1).

The purpose of the activity is to help your student to:

- Interpret a scale map to solve a real-world problem.
- Write instructions for movement based on a scale map.

Here is what to do:

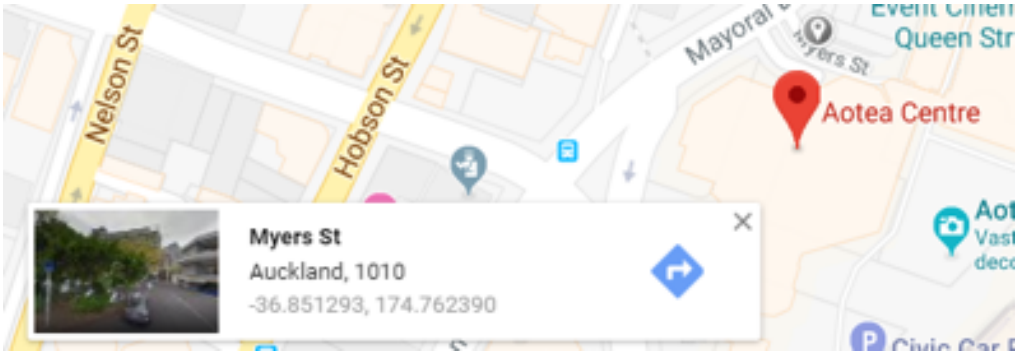
Read the problem together and clarify the demands of the task. Provide access to Google Maps using either a computer or handheld device. Give your student some time to locate The Aotea Centre in central Auckland. Choosing 'Nearby' and entering carpark reveals nearby carparks.



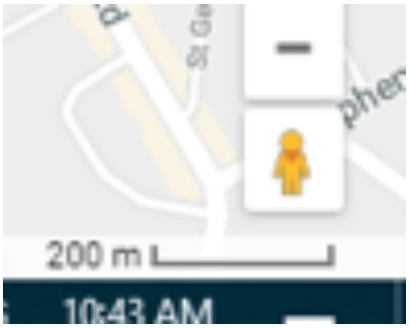
Right clicking on the Aotea Centre venue icon brings up a useful menu.

Notes for parents (2).

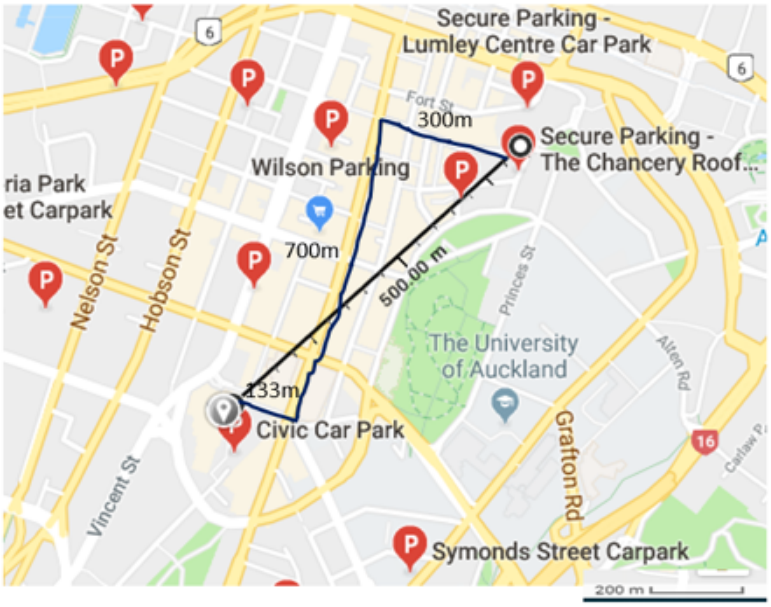
If your student clicks on ‘What’s here?’ they get a set of co-ordinates. -36.85 is the latitudinal co-ordinate (-36.85° from the Equator) and 174.76 is the longitudinal co-ordinate (174.76°E).



Clicking on the ‘Measure Distance’ option allows your student to identify the distance between Aotea Centre and each parking building. The distance is ‘as the crow flies’ not actual walking distance. Ask your student to estimate the distance before using Google Maps to measure it then ask them to work out the walking distance using the scale on the map. The scale is found in the bottom right corner and varies dependent on how much you zoom in or out.



For example, the distance to the Chancery Rooftop Carpark is exactly 500 metres as the crow flies. However, to estimate the walking distance (blue line) each distance of the journey must be worked out against the scale (300 + 700 + 133 = 1133 metres).



Notes for parents (3). Activity next page.

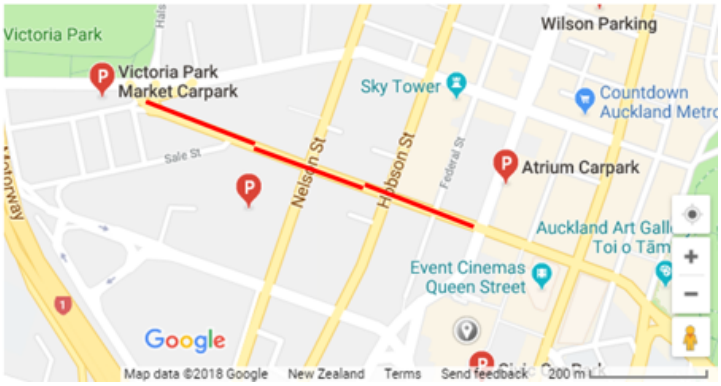
Allow your student time to look up each carpark to determine the best price and work out the walking distance. They may need to balance walking distance with price to get the best overall deal. Expect that they will create a set of instructions to get from the carpark to The Aotea Centre. For example, “Walk West for 300m along Shortland Street. Turn left into Queen Street and walk 700metres. Turn right into Wellesley Street West and walk about 130 metres.”

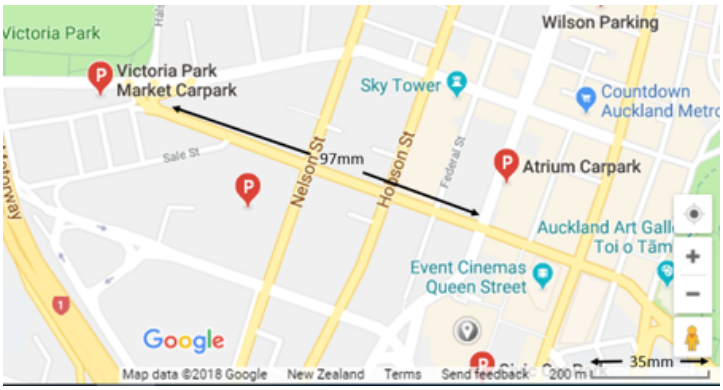
Points to note

Scale is one of the most difficult features of a map to interpret as it involves proportional reasoning. A scale represents a ratio between the physical distance on the map being read and the actual distance on the ground. Sometimes scale maps give that ratio, e.g. 1cm = 50m.

To calculate the actual distance for a leg of the work there are two main approaches. The easiest way is to consider how many copies of a part of the scale fit into the distance on the map. Below three copies of 200m on the scale fit into the section of map so the real distance is 600m.

A more accurate method is to compare the map distance with the scale distance to get a multiplier. Below the walking distance on the map is 97mm and the distance of 200m on the scale is 35mm. Therefore, the actual distance equals 97/35 x 200 = 554.29 metres.





Imagine you are going as a family to the Prince tribute concert.
You are huge fans of 'the Purple One.'

The concert is being held at The Aotea Centre in Auckland. You decide to park in a parking building 1-2 kilometres walking distance of the venue.

Use Google Maps to locate the Aotea Centre and a suitable carpark. Look up several carparks to get the best price you can. Create a set of instructions to walk to the concert. The instructions might be useful for getting home later.