Calculating with Map Scales

(a) The scale of a map is $1 : 250000$. On the map, the distance between two towns is 8.2 cm. Work out the real-life distance between the two towns, giving your answers in km.

(b) A map has a scale of $1 : 125000$. Derek wants to travel between two shops which are 1.75 km apart in real-life. How far apart in cm will the two shops be on the map?

(a) 20.5km

(b) 1.4cm

(a) Anum is making a scale model of a car. She is using a scale of $1 : 25$. The actual length of the car is 3.9 m. How long will Anum's model car need to be in cm?

(b) Teo is making a scale model of a bridge using a scale of $1 : 125$. The model bridge has a height of 54 cm. What is the actual height of the bridge in metres?

(a) 15.6 cm

(b) 67.5 metres

(a) The actual distance between two cities is 11.4 km. On a map the distance between these cities is 7.6 cm. Work out the scale of the map, giving your answer in the form $1 : n$.

(b) Umair has made two model airplanes, using the same scale for both. His model Boeing 747 has a wingspan of 11.2 cm and the actual wingspan of the same plane is 61.6 metres. If Umair's model Airbus A320 has a wingspan of 6.7 cm, what is its actual wingspan in metres?

(a) 1 : 1500

(b) 36.85m

Flora has a map with a scale of $1 : n$
The distance from home to the post office is 8 cm on the map and 132 metres in real-life.

(a) Work out the value of n

(b) The distance from the post office to the station is 11.2 cm on the map, and the distance from home to the station is 9.7 cm. Flora walks from home to the post office, then to the station, then back home. How far has she walked in total?

(a) n = 1650

(b) 28.9cm on map,
so 476.85 m