

Height ratio of Dewi and Gita = 120 cm:60 cm = 120:60 = 2:1
Height ratio of Dewa and Gita = 160 cm:60 cm = 160:60 = 8:3

From this example, it can be seen that to compare two quantities, we need to consider :

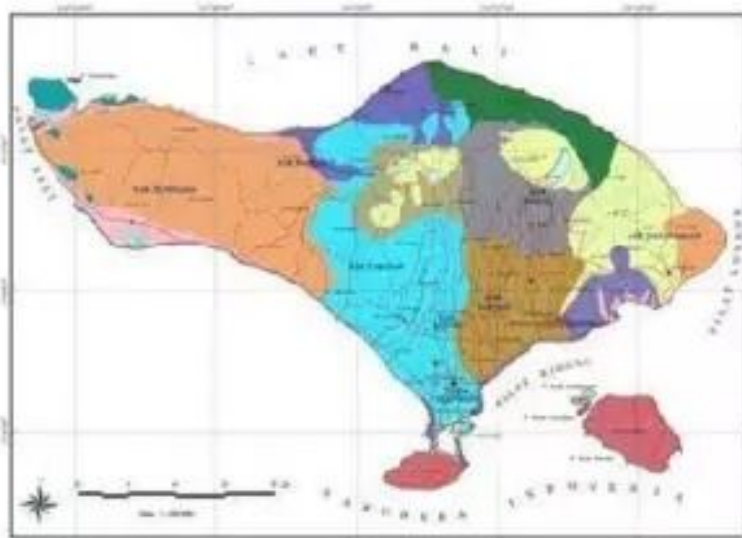
- Compare one quantity with another
- Equalize the units
- Simplify the comparison form

From the description and example of the problem above, we can get the meaning of comparison as follows:

- The ratio between a and b is written in simple form $\frac{a}{b}$ or a : b, where a and b are natural numbers, and $b \neq 0$.
- The two units being compared must be the same.
- Comparison in simple form means that a and b have no common factors except 1.

2. Scale

We often encounter the term scale when we open a map/atlas.



Skala 1: 5.000.000

If the map says scale 1: 5,000,000, it means :

1 cm on a map represents 5,000,000 cm of actual distance, or 1 cm

on a map represents 50,000 m of actual distance, or

1 cm on a map represents 50 km of actual distance

Scale is the comparison of the size in the figure (cm) with the actual size (cm) It appears that the **scale uses cm units** for the two quantities being compared Keep in mind that : 1 km = 1,000 m = 100,000 cm.

The following example explains how we use scale on a map.

- On a map, the distance between places A and B is 3 cm, whereas the distance between A and B is actually 450 km.

Determine the scale used on the map!

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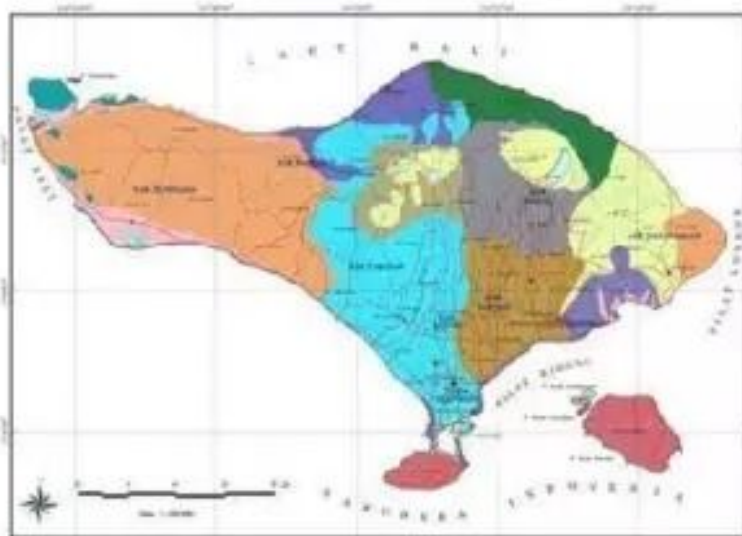
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Determine the scale used on the map!

Answer:

Scale = Size on the map: Actual size

= 3 cm : 450 km

= 3 cm : 45,000,000 cm (the scale must use cm units)

= 3 : 45,000,000

= 1 : 15,000,000

b. On a map the distance from city A to city B is 8 cm. If the scale of the map is 1 : 500,000, then what is the actual distance between the two cities?

Answer:

A scale of 1 : 500,000 means that 1 cm on a map represents 500,000 cm of actual distance, or 1 cm on a map represents 5 km of actual distance.

c. A map using a scale of 1 : 25,000,000 . If the distance between two places is actually 300 km, what is the distance between the two places on the map?

Answer:

Scale 1 : 25,000,000

This means that 1 cm on a map represents 25,000,000 cm of actual distance, or 1 cm on a map represents 250 km of actual distance.

So the distance between the two places on the map is $300 : 250 = 1.2$ cm

Now you have learned comparison, scale and its use, easy isn't it?