1) $\frac{1}{4}$ km = 250 metres

12cm = 120 mm

0.75 metres = 75 cm

76 000mm = 76 metres

2) 8500 metres = 8km + 0.5 km

350cm = 2 metres + 0.4 metres

180mm = 10cm + 8 cm

25 250mm = 25 metres + 0.25 metres

1) Grace is incorrect. Accept any correct explanation that shows that 0.86m is the same as 860mm.

86mm x 10 = 860mm

Therefore, there must be 10 cars lined up.

2) Accept any correct explanation that explains how Owen will need 2550cm of wood (25.5m) so he will need to round this up to 26 metres.

Route: A, B, C, D, E, F, A = 246km

Route: A, B, D, C, E, F, A = 365km

Route: A, B, D, E, C, F, A = 363km

1) 246 000m

2) 365km

3) 200 000cm

1) Complete these conversions.

$\frac{1}{4}$ km = _____ metres 0.75 metres = _____ cm

12cm = _____ mm 76 000mm = _____ metres

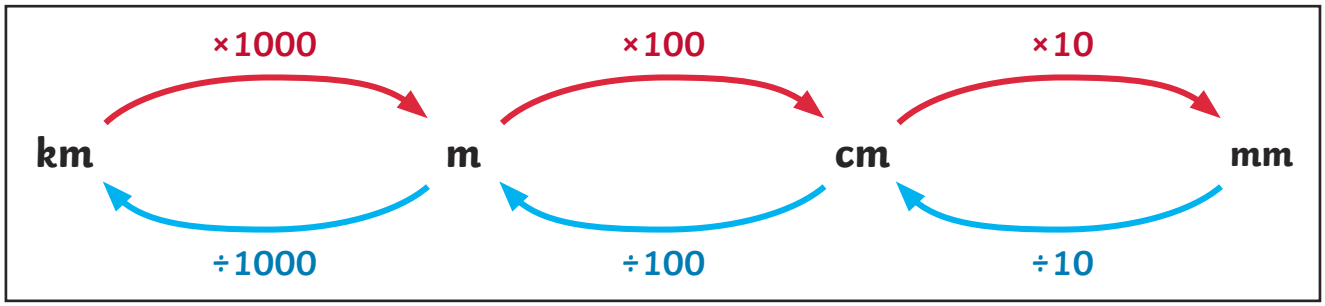
2) Complete the missing parts of these converted and partitioned lengths.

8500 metres = 8km + _____ km

240cm = 2 metres + _____ metres

180mm = 10cm + _____ cm

25 250mm = 25 metres + _____ metres



1) Grace is playing with her toy cars. She puts them in a line. Each car is 86mm in length and the total length of the line is 0.86m.

I have 100 toy cars in my line.

Is Grace correct? Explain your answer fully.

2) The shop sells wood in metre lengths. Owen needs 2550cm of wood to build a tree house.

I need to buy 26 metres of wood for the tree house.

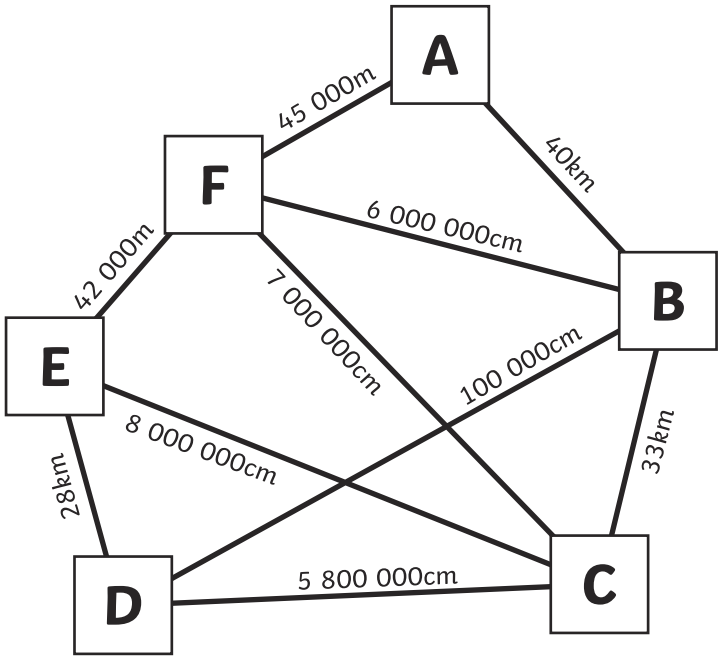
Do you agree with his statement? Explain why.

Passengers can travel between six holiday islands using this aeroplane service.

The small aeroplane travels from island A back to island A. It visits each of the other islands only once and must travel to island B first.

There are three possible routes the aeroplane can fly.

Find the distances of the possible aeroplane routes.

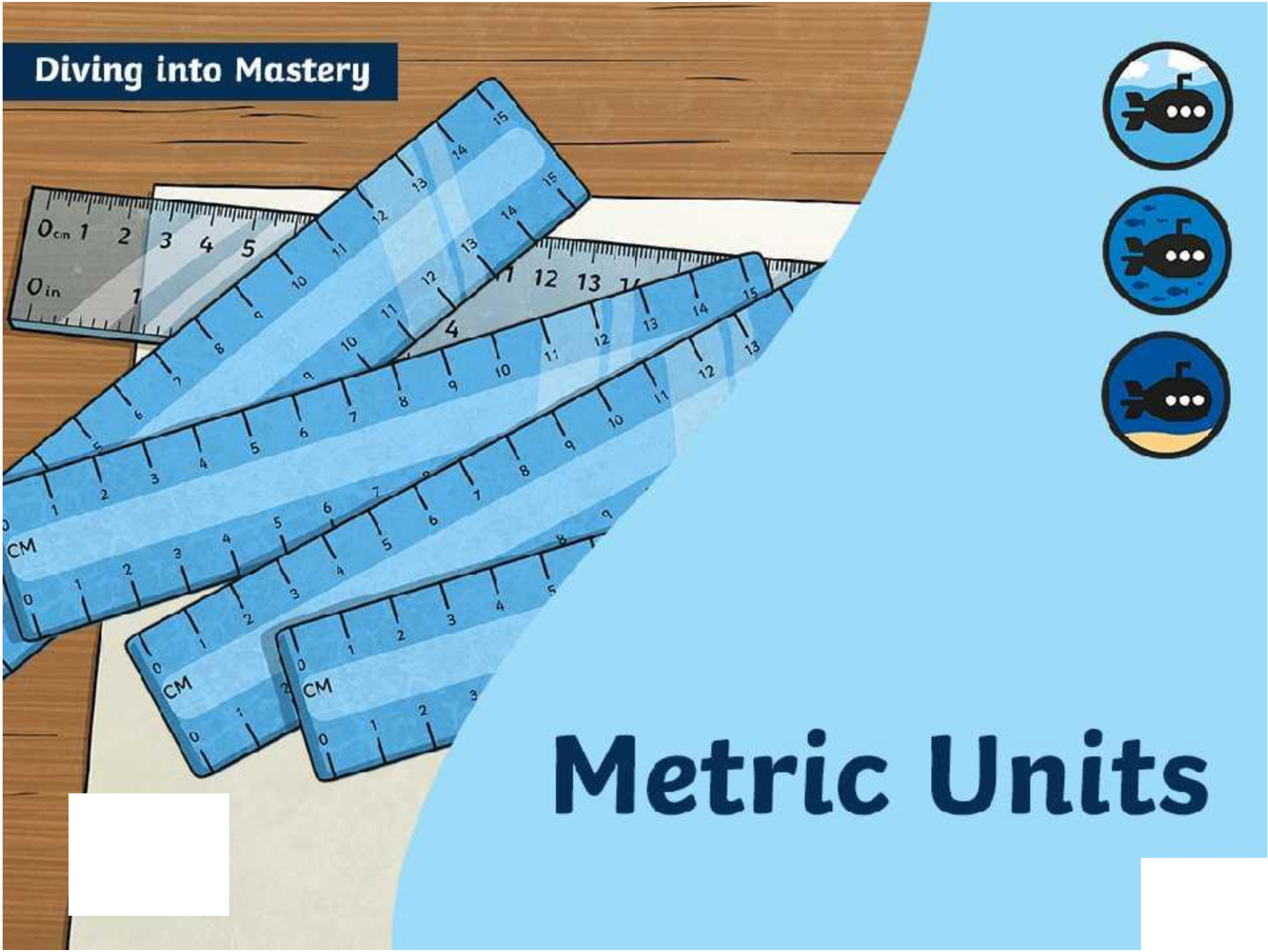


1) What is the distance of the shortest route in metres? _____

2) What is the distance of the longest route in kilometres? _____

3) In centimetres, what is the difference between the middle and longest routes? _____

Diving into Mastery



Metric Units

Diving into Mastery Guidance for Educators

Each activity sheet is split into three sections, diving, deeper and deepest, which are represented by the following icons:

Diving

Deeper

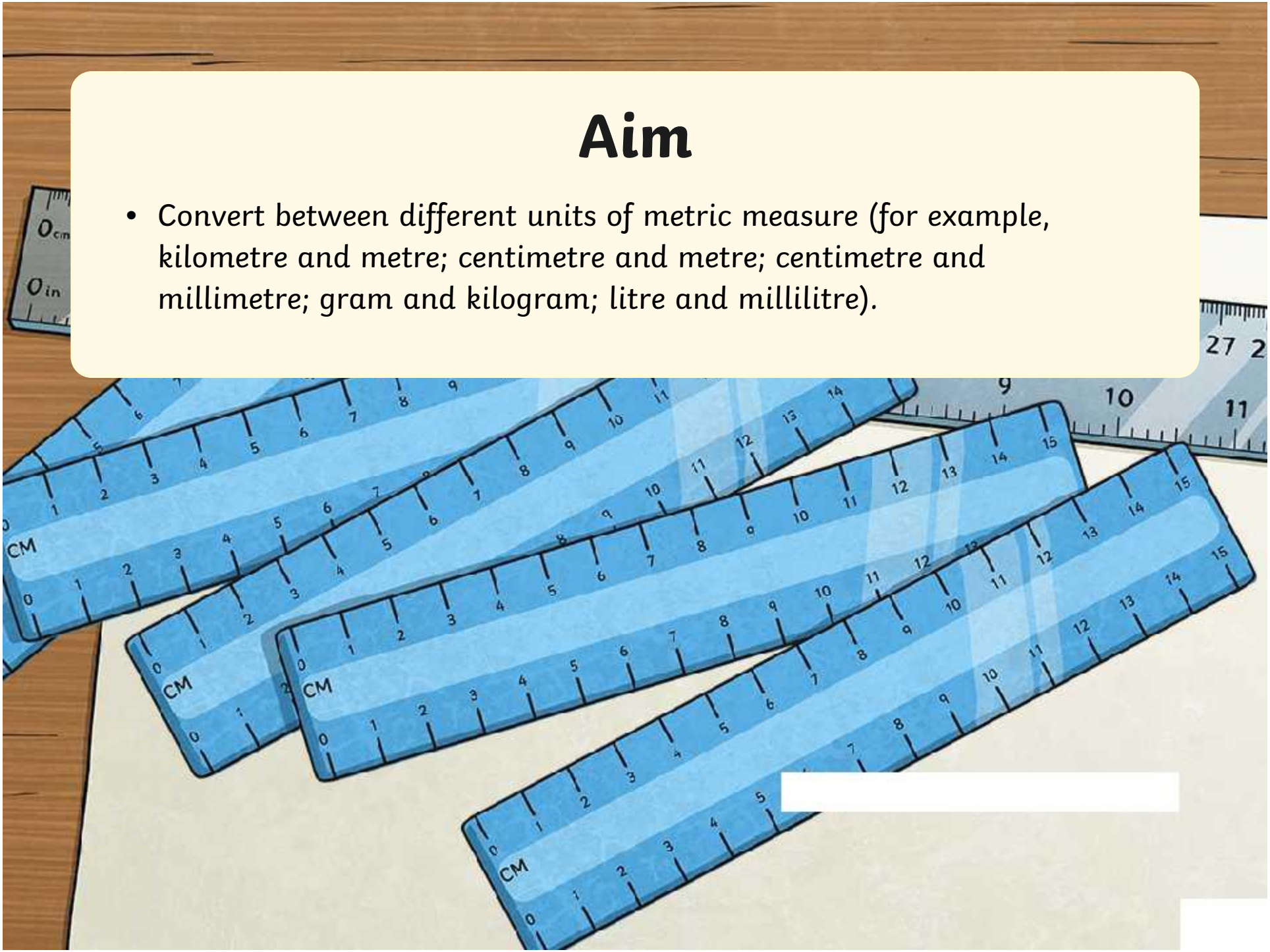
Deepest

These carefully designed activities take your children through a learning journey, initially ensuring they are fluent with the key concept being taught; then applying this to a range of reasoning and problem-solving activities.

These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.

Aim

- Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).



Metric Units | **Diving**

- Complete these conversions.

$\frac{3}{4}$ km = **750** metres

0.04 metres = **4** cm

19cm = **190** mm

29 000mm = **29** metres

- Complete these partitioned lengths.

7200 metres = 7km + **0.2** km

330cm = 3 metres + **0.3** metres

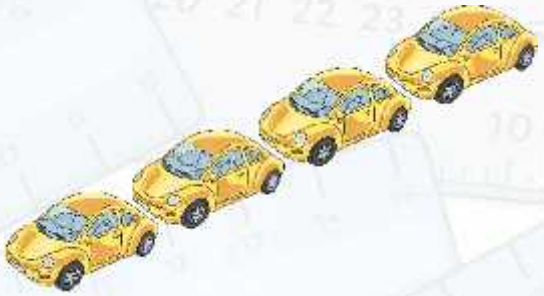
260mm = 20cm + **6** cm

42 750mm = 40 metres + **2.75** metres

Metric Units | **Deeper**

The length of a toy car is 73mm.

If I put 100 of these toy cars in a straight line, the line will measure 7.03m.



Is Sam correct? Explain your answer.

Sam is incorrect.

73mm × 100 = 7300mm

7300mm, when converted to metres, is 7.3m.

Metric Units | Deeper

The shop sells wood in metre lengths.

To build a tree house, I need 2870cm of wood. I need to ask the shopkeeper for 287 metres of wood.

Is Sharon correct? Explain your answer.

Sharon is incorrect as she has only divided by 10 when she should have divided by 100.

2870cm ÷ 100 = 28.7m

As the shop only sells wood in metre lengths, she would need to ask for 29m of wood.

Metric Units **Deepest**

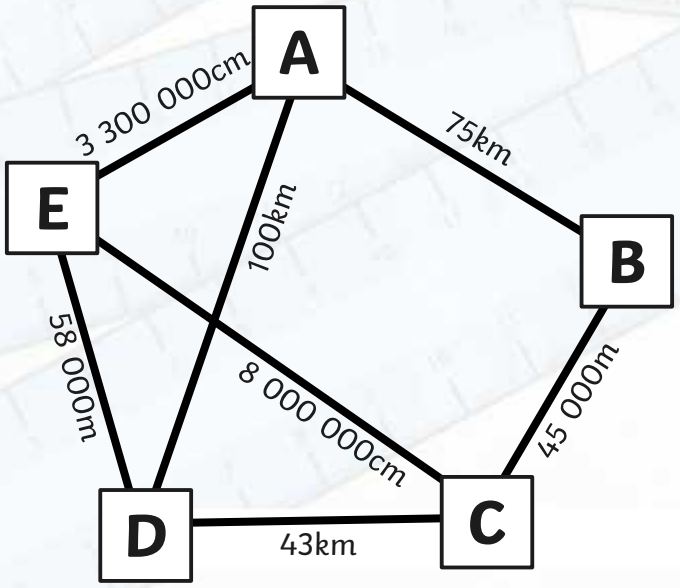
Passengers can travel between five holiday islands using this free aeroplane service.

The small aeroplane travels from island A back to island A. It visits each of the other islands only once and must visit island B first. There are two possible routes that the aeroplane can fly.

Find the distance of the two possible aeroplane routes in kilometres.

Route: A, B, C, D, E, A = 254km

Route: A, B, C, E, D, A = 358km



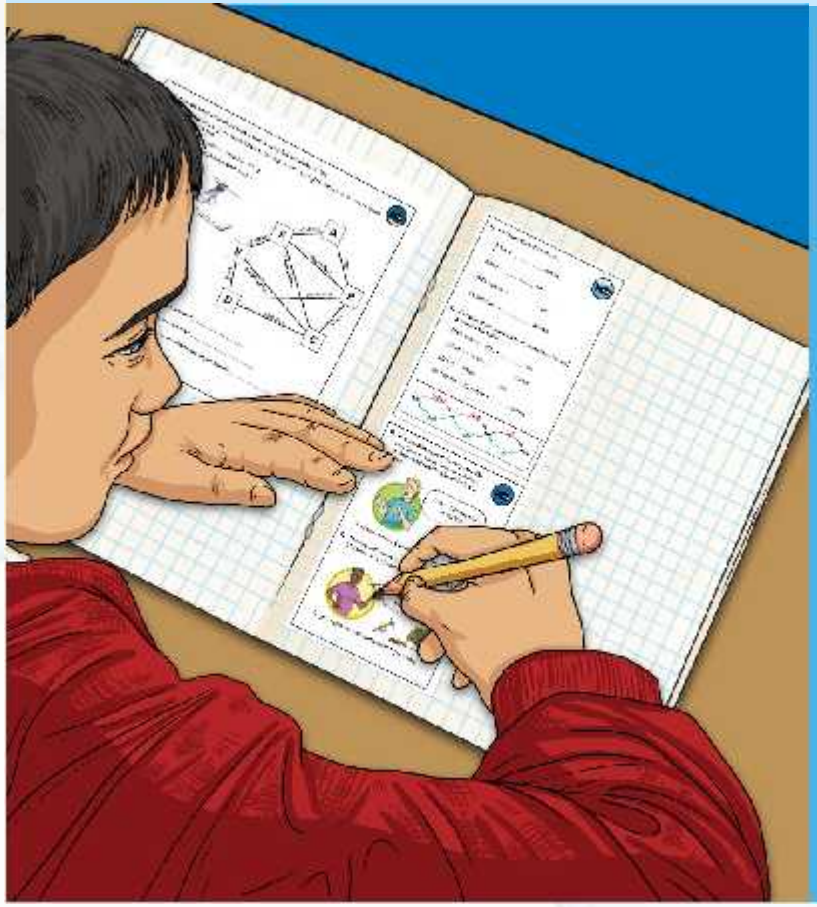
What is the difference, in centimetres, between the total distance of the two possible journeys?

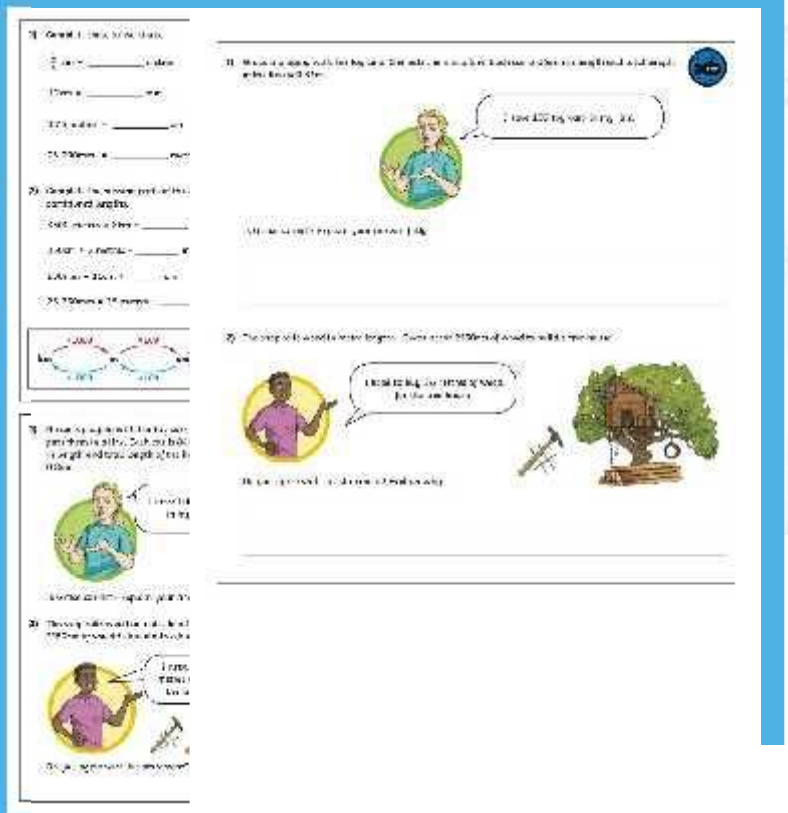
358km - 254km = 104km

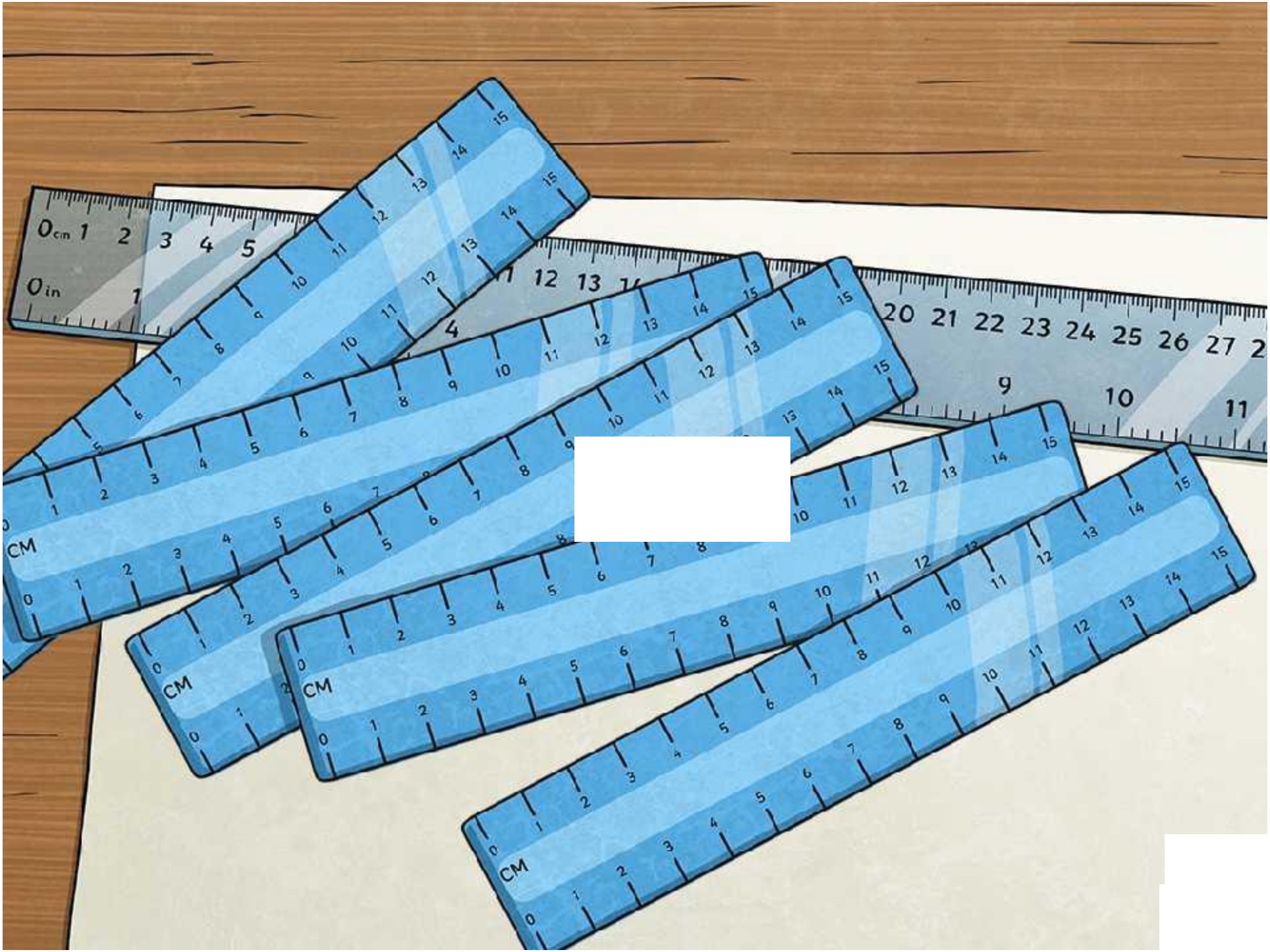
= 10 400 000cm

Metric Units

Dive in by completing your own activity!






0 cm 1 2 3 4 5
0 in
CM

1) Complete these conversions.

$\frac{1}{4}$ km = _____ metres

12cm = _____ mm

0.75 metres = _____ cm

76 000mm = _____ metres

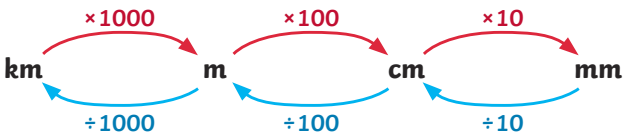
2) Complete the missing parts of these converted and partitioned lengths.

8500 metres = 8km + _____ km

240cm = 2 metres + _____ metres

180mm = 10cm + _____ cm

25 250mm = 25 metres + _____ metres



1) Complete these conversions.

$\frac{1}{4}$ km = _____ metres

12cm = _____ mm

0.75 metres = _____ cm

76 000mm = _____ metres

2) Complete the missing parts of these converted and partitioned lengths.

8500 metres = 8km + _____ km

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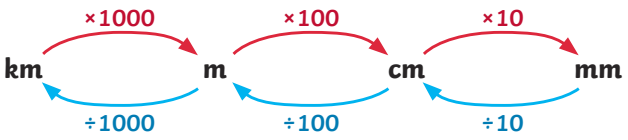

1) Grace is playing with her toy cars. She puts them in a line. Each car is 86mm in length and the total length of the line is 0.86m.

Is Grace correct? Explain your answer fully.

2) The shop sells wood in metre lengths. Owen needs 2550cm of wood to build a tree house.

Do you agree with his statement? Explain why.

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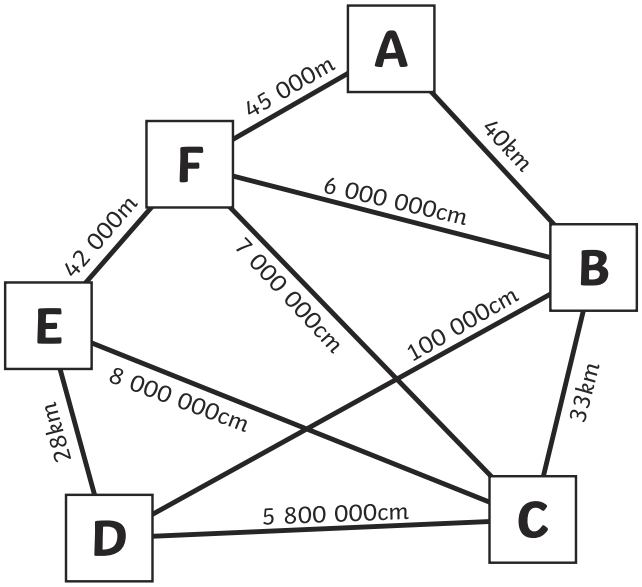
There are three possible routes the aeroplane can fly.



Find the distances of the possible aeroplane routes.

1) What is the distance of the shortest route in metres?

2) What is the distance of the longest route in kilometres?

3) In centimetres, what is the difference between the middle and longest routes?

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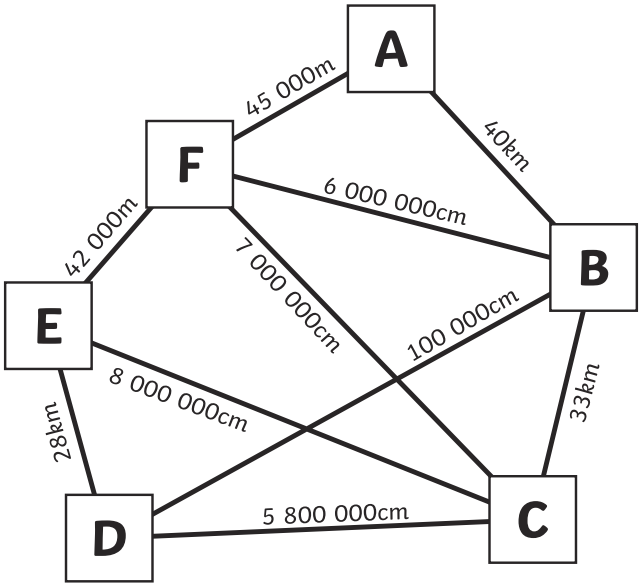

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