

**Objective:** Estimate, compare and calculate with measures of length

## Year 4 Task:

### Some key vocabulary for length:

millimetre (mm)      centimetre (cm)      metre (m)      kilometre (km)

### Some key facts for length:

1cm = 10 mm

10cm = 100 mm

100 cm = 1000 mm

1m = 100 cms

10m = 1000 cms

1km = 1000 m



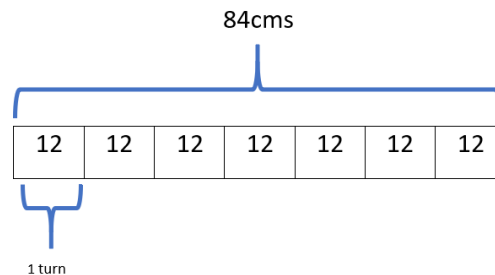
This spaghetti machine makes 12cms length of spaghetti each time the handle is turned. How many turns are needed to make 84cm of spaghetti?

### Worked example

12 cms x ? turns of the handle = 84 cms

12 cms x 7 turns of the handle = 84cms

**Answer: 7 turns of the handle makes 84 cms of spaghetti**



### Variation



This spaghetti machine makes 30 mm length of spaghetti each time the handle is turned. How many turns are needed to make 180 mm of spaghetti?

Space for your solution



This spaghetti machine makes 2m length of spaghetti each time the handle is turned. How many turns are needed to make 7m of spaghetti?

**Space for your solution**

Using any combination of the three spaghetti machines, how could you make the following lengths of spaghetti?

- 63cm
- 150cm
- 5m
- 9m
- 1km

Don't forget to remember which unit of length each machine uses.

Remember to use the key facts at the top of this sheet.

There may be more than one way of making each length.

Use facts and related facts to work towards the answers

**Space for your solutions**

Answers: 2m x 4 turns = 8m; cut one length in half for 7m or 2 and a half turns

- 63cm (630mm) = 30mm x 20 turns (600mm) and 1 turn (30mm) so 21 turns or 12cm x 5 (60cms) and  $\frac{1}{4}$  of a turn (3cms) so 5  $\frac{1}{4}$  turns.
- 150cms = 30mm x 50 turns (1500 mm). 1500mm = 150cms
- 5m = 2ms x 3 turns (6m), cut one length in half
- 9m = 2ms x 3 turns (6ms); 3m = 3000mm so 30mm x 100 turns = 3000 mm so 3 turns of 2m machine and 100 turns of 30mm machine.
- 1km (1000m) = 2m x 500 turns