Unit 9 · Distance

HARDER PRACTICE QUESTIONS

Full marks 29

Write your answers on separate paper. Show your working. Use 1 in = 2.54 cm, 1 ft = 12 in = 30.48 cm (all exact) and 1 m ≈ 3.28 ft (rounded). The people and things on this sheet are made up.

1 Spot the error [3]

Shristi is 5 ft 6 in tall. She wrote: "5 ft 6 in = 5.6 ft."

i. What is wrong?
ii. Write her height in feet as a decimal.
iii. Write her height in centimeters.

2 Put them in order [3]

Four sticks are 1.2 m, 4 ft, 47 in and 125 cm long. Put them in order, the shortest first. Show how you compared them.

3 Who is taller? [3]

Pemba's height is 5 ft 2 in. His cousin Yangchen's height is 160 cm.

i. Write Pemba's height in centimeters.
ii. Who is taller, and by how many centimeters?
iii. About how many inches is that?

4 Shelves from a plank [3]

A carpenter has a plank 12 ft long. He cuts shelves 2 ft 9 in long from it.

i. How many shelves can he cut?
ii. How long is the piece left over, in inches?
iii. How long is it in centimeters?

5 Will the TV fit? [3]

Kapil wants a 43-inch TV for a gap 100 cm wide in a cupboard. He says: "43 × 2.54 = 109.22 cm, so the TV is too wide for the gap."

i. Is his multiplication right?
ii. Why doesn't his answer show that the TV won't fit?
iii. What should he measure, or ask the shop, before he decides?

6 Two answers, both fine [4]

Two students changed 2 km into feet. Bhumika got 6560 ft. Saugat got 6561.68 ft.

i. Show how each could have got their answer.
ii. Why are the answers different?
iii. Whose answer is closer to the true length, and why?
iv. Their teacher said both are fine. Why?

7 Round a ropani [3]

A plot of land of 1 ropani can be a square 74 ft on each side.

i. How long is one side in meters? Give your answer to two decimal places.
ii. Nikita walks once all the way round the plot. How far does she walk, in feet and in meters?

8 Make your own [3]

Write a short problem from everyday life in which a length in feet and inches must be changed into centimeters, and whose answer is **76.2 cm**. Then solve it.

9 Think: growing to 5 feet [4]

Rojina is 4 ft 11 in tall. Suppose she grows 2 cm a year.

i. How many centimeters must she grow to be 5 ft tall?
ii. After how many whole years will she be at least 5 ft tall?
iii. How tall will she be then, in centimeters?
iv. Is she then more or less than 5 ft 1 in?