Grade 5 Math, Explained

Unit 9 · Distance

HARDER PRACTICE QUESTIONS

Full marks 34

Write your answers on separate paper. Show your working, and write the unit with every answer. 1 km = 1000 m, 1 m = 100 cm, 1 cm = 10 mm. The places and people on this sheet are made up for the problems, except where the sheet says so.

1 Shortest to longest [3]

Here are five lengths.

2 km 50 m; 2500 m; 2 km 5 m; 2,05,000 cm; 2,00,500 mm

i. Two of them are equal. Which two?

ii. Write all five from the shortest to the longest.

2 Work backwards [3]

A rope was cut into 6 equal pieces, each 1 m 35 cm long, and 40 cm of rope was left over. How long was the rope?

3 Poles for prayer flags [4]

A straight path is 45 m long. Poles for prayer flags are put along it, one every 2 m 50 cm, with a pole at each end.

i. How many spaces are there between the poles?

ii. How many poles are there?

iii. Nishant says "18 poles". On squared paper, draw a path 5 m long with a pole every 2 m 50 cm, and use it to explain his mistake.

4 Spot the error [3]

Smriti wrote: "5 km 40 m ÷ 4 = 1 km 10 m."

i. What is the right answer?

ii. What was her mistake?

iii. Show how multiplying back proves her answer wrong.

5 A porter's day [4]

Chiring, a porter, walks 2 km 400 m an hour with his load. He has to walk 9 km 600 m. He starts at 7:15 AM and rests for 45 minutes on the way.

i. How many hours does he walk?

ii. When does he arrive? Give the time in 12-hour and in 24-hour time.

6 A pile of books [4]

A pile of 8 books of the same size is 30 cm 4 mm high.

i. How thick is one book?

ii. The books are put upright, side by side, on a shelf 1 m long. How many fit? How much space is left?

7 On the map [3]

On a map, every 1 cm stands for 5 km on the ground.

i. How far on the ground does 1 mm on the map stand for?

ii. Two towns are 7 cm 4 mm apart on the map. How far apart are they really?

iii. Two other towns are 52 km apart. How far apart are they on the map?

8 Above Sagarmatha [3]

Sagarmatha's height, measured by Nepal and China in 2020, is 8,848.86 m above the sea. A plane flies 10 km 500 m above the sea. How far above the top of Sagarmatha is the plane? Give the answer in km, m and cm.

9 Think: up and down the pole [4]

A snail climbs a pole 1 m high. Every day it climbs up 30 cm, and every night it slides back down 20 cm. Swapnil says: "It goes up $30 - 20 = 10$ cm a day, and $100 \div 10 = 10$, so it reaches the top on day 10."

i. Copy and complete a table: for each day, how high the snail is at the end of the day, and at the end of the night.
ii. On which day does it reach the top?
iii. Why is Swapnil wrong?

10 Make your own [3]

Make up a word problem in which a length is shared equally among 4 people, and each gets 3 km 250 m. Then solve your problem.