CBSE Class 4 Subject Mathematics

NCERT Solutions

Chapter- 2

LONG AND SHORT

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How Far Apart are the Dots?

Q. Guess the distance between any two dots. How many centimeters is it? Now measure it with the help of a scale. Did you guess right?

Ans. The guessed distances between any two dots are:

Between dots

A and B = 3 cm,A and C = 4 cm,A and D = 4.5 cm

A and E = 4 cm,A and F = 4.5 cm,A and G = 6 cm

A and H = 5 cm,B and C = 6 cm,B and D = 5 cm

B and E = 5 cm,B and F = 8 cm,B and G = 3 cm

Band H = 7 cm,C and D = 8 cm,C and E = 5 cm

C and F = 3 cm,C and G = 8 cm,C and H = 5.5 cm

D and E = 7 cm,D and F = 9 cm,D and G = 4cm

D and H = 9 cm,E and F = 5 cm,E and G = 5 cm

E and H = 3 cm,F and G = 9 cm,F and H = 3.5 cm

G and H = 7 cm,

On actual measurement, we find the distances between the do's as under :

Between dots

A and B = 3 cm,A and C = 3 cm,A and D = 4.4 cm

A and E = 3.5 cm,A and F = 4.6 cm,A and G = 6.3 cm

A and H = 6 cm,B and C = 5.8 cm,B and D = 4.8 cm

B and E = 5 cm,B and F = 7.2 cm,B and G = 3.2 cm

B and H = 7 cm,C and D = 6.8 cm,C and E = 5.2 cm

C and F = 2.5 cm,C and G = 7.7 cm,C and H = 5 cm

D and E = 6.8 cm,D and F = 8.5 cm,D and G = 4.2 cm

D and H = 8.8 cm,E and F = 4.8 cm,E and G = 4.5 cm

E and H = 2.6 cm,F and G = 8.5 cm,F and H = 3.5 cm

G and H = 7.2 cm,

We see that the guesses are almost right.

Q. Which two dots do you think are farthest from each other? Check your answer.

Ans. Dots O and M are farthest from each other.

Q. Which two dots are nearest to each other?

Ans. Dots D and O are nearest to each other.

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Q. Look at the picture and explain how Birbal made Akbar's line shorter.

Q. Now can you be as smart as Birbal? Make his line shorter without erasing it. Just think is there any longest line?

Ans. Birbal made Akbar's line shorter by drawing a longer line than that of Akbar's line.

Yes, I can be as smart as Birbal. I can make Birbal'sline shorter without erasing it by drawing a line longer than his.

There is no longest line as we can make any line look shorter by drawing a longer line in front of it.

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Q. Make her right arm 1 cm longer than the left arm.

Ans. Her right arm is shown 1 cm longer than the left arm.

Q. Draw a cup1 cm shorter than this cup.

Ans. A cup 1 cm shorter than the given broom is as shown in the figure.

Q. Draw a broom half as long as this broom.

Ans. A broom half as long as the given broom is as shown in the figure.

Q. Draw another hair of double the length.

Ans. Another hair of double the length is shown in the figure.

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How tall have you grown?

Q. Do you remember that in Class 3 you measured your height?

Ans. Yes, I remember that in Class 3, I measured my height.

Q. Do you think you have grown taller?

Ans. Yes, I have grown taller.

Q. How much?

Ans. By 4 cm

Q. Have your friends also grown taller?

Ans. Yes, my friends have also grown taller.

Q. Find out and fill the table below.

Ans. The required in formations is tabulated as under :

Friend's Name	**Last year's height (in cm)**	**This year's height (in cm)**	**How many cm have they grown?**
Harish	1 m 4cm	1 m 7 cm	3 cm
Sunny	88 cm	92 cm	4 cm
Manoj	1 m	1m 2 cm	2 cm
Sonu	1m 2cm	1 m 6 cm	4 cm
Munny	90 cm	94 cm	4 cm

Q. Jhumpa once read a list of the tallest people in the world. One of them was 272 cm tall! That is just double of Jhumpa's height. How tall is Jhumpa?

Ans. Height of Jhumpa = $(272 \div 2)$ cm = 136 cm

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Imagine :

Q. Could that person pass through the door of your classroom without bending

Ans. He cannot pass through the door without bending.

Q. Will his head touch the roof of your house if he stands straight?

Ans. Yes, his head will touch the roof of my house if he stands straight.

The long and short of your family!

Q. Who is the tallest in your family?

Ans. My father is the tallest in my family.

Q. Who is the shortest in your family?

Ans. I am the shortest in my family.

Q. What is the difference between their heights?

Ans. The difference between our heights is 60 cm.

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Inter School Sports Meet

Race

(a)How far is Rehana from Arundhati?

Ans. Rehana is 3 metres from Arundhati.

(b)How far ahead is Rehana from Konkana and Uma?

Ans. Rehana is 6 metres from Konkana and Uma

(c)How far are Konkana and Uma from the finishing line?

Ans. Konkana and Uma are 15 metres from the finishing line.

Q. Have you heard a 1500 m or 3000 m race? (Do you remember 1000 metres make 1 kilometre and 500 metres make half a kilometer.

So you can say –

Ans. In a 1500 metres race people run one and a half km

In a 3000 metres race people run three km.

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Q. Have you heard about marathon race in which people have to run about 40 kilometres? People run marathons on roads because the track of a stadium is only 400 metres. 10 rounds of a stadium track = ... km.

Ans. Length of the track of a stadium = 400 metres

So. 10 rounds of a stadium track = 10×400 metres

= 4000 metres

=4000/1000

= 4 km

Q. So, if you run a marathon on a stadium track, you will have to complete ..... rounds!

Ans. In order to run a marathon on a stadium track, required number of rounds.

= $(40 \times 1000) \div 400 \quad [\because 1 km = 1000 km]$

= $40000 \div 400$ = 100

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Long Jump

Q. Dhanu has the longest jump of 3 metres 40 cm. Gurjeet is second. His jump is 20 cm less than Dhanu's. Gopi comes third. His jump is only 5 cm less than Gurjeet's jump.

How long are Gurjeet's and Gopi's jumps?

Ans. Gurjeet's long jump = Dhanu's long jump -20 cm

= 3 m 40 cm -20 cm

= 3 m 20 cm

Gopi's long jump= Gurjeet's long jump – 5 cm

= 3 m 20 cm – 5 cm

= 3m 15 cm

Try and see how far you can jump.

Ans. (Do as directed).

Q. How far can you throw a ball?

Ans. I can throw a ball to a distance of 5 metres.

Q. Look for a big ball, like a football or volleyball. How far can you kick it?

Ans. I can kick a big ball to a distance of 15 metres.

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Q. Here are the Indian Records and World Records for some sports.

Ans.

Sports	**World Record**	**Indian Record**
High jump (Men)	Javier S. (2 m 45 cm)	Chandra Pal (2 m 17 cm)
Long jump (men)	Mike P. (8 m 95 cm)	Amrit Pal (8 m 8 cm)
High jump (Women)	Stefka K. (2 m 9 cm)	Bobby A. (1 m 91 cm)
Long jump (Women)	Galina C. (7 m 52 cm)	Anju G. (6 m 83 cm)

Find out form the table –

1.How many centimeters more should Chandra Pal jump to equal the Men's World Record for high jump?

Ans. High Jump (Men) World Record = 2 m 45 cm

High Jump (Men) Indian Record = 2 m 17 cm

Number of centimeters more required by Chandra Pal to equal

Men's World Record = 2 m 45 cm -2 m 17 cm

= 28 cm.

2.How many centimeters higher should bobby. Jump to reach 2 metres? Remember that

1 m = 100 cm

Half metre = ?

Ans. From the table.

High jump (Women) Bobby A. record = 1 m 91 cm

To reach 2 metres height, she requires

2 m – 1 m 91 cm = 9 cm higher jump

Also, half metre = $1m \div 2 = 100m \div 2$ = 50 cm.

3.Galina's long jump is nearly

(a) 7 metres(b) 7 and a half metres(c) 8 metres

Ans. Galina's long jump is nearly 8 metres.

4.Look at the Women's World Records. What is the difference between the longest jump and the highest jump?

Ans. The difference between the longest jump and highest jump of Women's World Record.

= 7 m 52 cm – 2 m 9 cm.

= 5 m 43 cm

5.If Mike P. could jump ……..centimetres longer, his jump would be full 9 metres.

Ans. If Mike P. could jump 5 centimetres longer, his jump would be full 9 metres.

Because : 9 m – 8 m 95 cm = 0.05 cm.

6.Whose high jump is very close to two and half metres?

(a) Stefka K.(b) Chandra Pal (c) Javier S. (d) Bobby A.

Ans. Chandra Pal is very close to two a half metres high jump.

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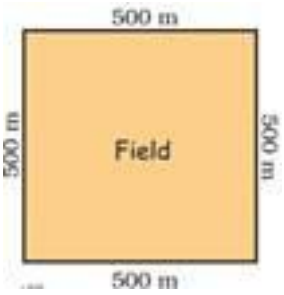
Running Exercise

Q. The doctor has told Devi Prasad to run 2 km every day to stay fit. He took one round of this field. How far did she run?

Ans. He had run $4 \times 500 m$ = 2000 m = 2 Km



Q. The field was very far from his home. So he chose a park nearby. The boundary of the park was about 400 metres long.

Q. How many rounds of the park must Devi Prasad run to complete 2 km?

Ans. Length of the boundary of the park = 400 m

Number of rounds required to complete 2 km, i.e., 2000m = $2000 \div 400 = 5$

Q. One day the weather was very good and cool breeze was blowing. He felt so good that he kept jogging till he got tired after 8 rounds. That day he ran – km and ..... Metres!

Ans. Distance covered in 1 round= 400 m

Distance covered in 8 rounds = $8 \times 400 m = 3200 m$

= 3000 m + 200 m

= $3 \times 1000 m + 200 m$

= 3 km 200 m

Therefore, that day he ran 3 km and 200 metres!

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How Many Rooms High?

Q. The Qutub Minar is 72 metres high.

About how many metres high is your classroom?

Ans. The class room is about 3 metres high.

Q. Guess how many rooms, one on top of the other, will be equal to the qutub Minar.

Explain how you made a guess.

Ans. Height of the Qutub Minar = 72 metres

Number of rooms, one on top of other, which will be equal to the height of the Qutub Minar.

= Height of the Qutub Minar ÷ Height of the room

= $72 \div 3 = 24$

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From Kozhikode to Thalassery

Q. Subodh is going to Kozhikode qhich is 24 kilometres (km) from this place. Manjani is going to Thalassery which is 46 km away in the opposite direction.

How far is Kozhikode from Thalassery?

Ans. Clearly, the distance of Kozhilode form Thalssery

= 24 km + 46 km = 70 km

How Far is Your Home from School?

Q. Momun comes to school from very far. He first walks about 400 metres to the pond. With slippers in his hand, he then walks 150 metres through the pond. Next he runs across the 350 metres wide green field. Then he carefully crosses the 40 metres wide road to teach his school.

How much does Momun walk everyday to reach school? Is it more than I km?

Ans. Distance walked by Momun everyday to reach school

= Distance walked up to the pond + Distance walked through the pond

+Distance ran across green field + Distance in crossing the road

= 400 m + 150 m + 350 m +40 m

= 940 metres

It is not more than 1 km, as 1 km = 1000 m

Q. Find out how far your friends live from school and fill the table. Write in metres or kilometers.

Ans.

Friend's Name	**Distance of home from school**
1. Pranesh	2 km 700 m
2. Savithri	600 m
3. Amrita	800 m
4. Venugopal	1 km 500 m
5. Girish	3 km

Q. Who among you lives nearest to the school?

Who lives farthest from the school?

How many childfren live less than 1 km away from school? How do they come to school?

Ans. Clearly, from the table :

Savithri lives nearest to the school.

Venugopal lives farthest from the school.

Savithri and Amrita live less than 1 kilometre away from the school.

Yes, Venugopal lives more than 5 km away from the school. He comes to the school by bus.

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Guess and Find Out

1.How long is the thread in a reel?

Ans. The length of the thread in a reel depends on its size, It may be 50 metres, 100 metres, 200 metre, 500 metres, etc.

2.How long is the string of a kite reel? Can it be more than a kilometer long?

Ans. The length of the string of a kite reel depends upon its size. It may be 500 metres, 1000 metre, etc. Yes, it can be more than a kilometer in length.

3.If a handkerchief is made out of a single threads how long would that thread be?

Ans. The length of a single thread of which a handkerchief made may be about 100 metres.

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Try to Find out :

1.Which is the highest building that you have seen? A bout how many rooms high was it?

Ans. Qutub Minar is the highest building that I have seen. It is about 26 rooms high.

2.How high can a kite go? Can it go higher than the Qutub Minar?

Ans. A kite can go to the height of about 30 metres. It cannot go higher than the Qutub

Minar.

3.How high can a plane fly? Can it fly higher than Mount Everest which is about 9 km high?

Ans. A plane can fly to the height of 5000 metres. It cannot fly higher than the Mount Everest.

4.Have you ever seen clouds below you?

Ans. Yes, I have seen clouds below me.