

## Carts & Wheels

### Question 1:

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You must have seen many such round things around you. List some more in your notebook.

#### Answer:

Do it by yourself. Answers may vary from student to student.

Observe round shape things that you see in your surroundings and list them in your notebook.

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### Question 2:

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Have you ever gone to a bangle shop?

#### Answer:

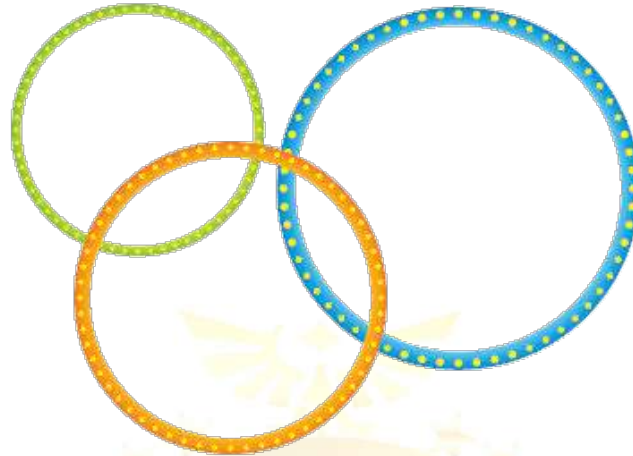
Answers may vary from student to student.

Think if you have ever visited a bangle shop and then answer the question.

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### Question 3:

Guess which of these bangles is of your size.



**Answer:**

Answers may vary from student to student.

Observe the size of the bangles in the given picture and also the size of your wrist and then guess which of the bangles will fit you.

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**Question 4:** Indian Education International Approach

Take a wire and make a bangle for yourself. Can your madam or mother wear this bangle? \_\_\_\_\_.

**Answer:**

Answers may vary from student to student.

Take a wire and fold it into round shape to make a bangle for yourself and also observe the size of the bangle. The size of the bangle depends upon the length of the wire used. Longer the wire, bigger the size of the bangle.

### Question 5:

A bangle can be used to trace a circle. What are the other things around you that you can use to trace a circle?

### Answer:

Do it by yourself. Answers may vary from student to student.

A circle is a round shape figure with no corners or edges. Look around yourself and note down the round shape things that you see and use it to trace a circle.

Some of the things that you can use to trace a circle are the following:

- Round plate.
- A bottle cap.
- A round pen cap.
- A coin.
- A round glass.
- A bowl.

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### Question 6:

Trace a circle with the help of some of these things in your notebook or on the ground.

Which thing makes the smallest circle?

Which thing makes the biggest circle?

**Answer:**

Trace circles with the help of the things that you have written in the previous answer and observe the size of each circle.

From the things that is mentioned in the previous answer, the smallest circle can be traced by the pen cap and the biggest circle can be traced by the round plate.

**Question 7:**

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Children are playing some games.



Do you play these games?

**Answer:**

Do it by yourself. Answers may vary from student to student.

Look at the games that are shown in the picture and check if you have ever played those games.

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**Question 8:**

Which song do you sing when you play these?

**Answer:**

Do it by yourself. Answers may vary from student to student.

If you play these games write the name of the songs that you sing while playing.

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**Question 9:**

Why do we make a circle in each of these games?

**Answer:**

We make circle in each of these games so that the distance from the centre to each of the players are the same. This means that each player will get equal chance and opportunity.



**Question 10:**

What if a rectangle was made? Discuss.

**Answer:**

A rectangle is four side figures with corners and edges. If a rectangle is made instead of a circle, the distance of each player will not be the same from the centre of the rectangle. So, each player will not get equal chance and opportunity.

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**Question 11:**

Think of some other games you play by making circles.

**Answer:**

Do it by yourself. Answers may vary from student to student.

Following are few examples of such game.

- Musical Chair.
- Truth and dare.
- Passing the Parcel.

**Question 12:**

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Is any of these a good drawing of a circle? Discuss.



**Answer:**

No, none of the circles drawn by them are good.

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**Question 13:**

Can you draw a circle on the floor with chalk? Try.

**Answer:**

Do it by yourself. Take a chalk and try to draw a circle on the floor. Draw a small circle to get a good circle.

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**Question 14:**

Also draw a circle in your notebook using a pencil.

**Answer:**

Do it by yourself. Take a pencil and try to draw a circle on the notebook.

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**Question 15:**

Look at the circles drawn by friends. Who has drawn the best circle?

**Answer:**

Do it by yourself as directed. Answers may vary from student to student.

Ask your friends to draw a circle in the notebook and on the floor. Then compare the drawing of circles and see who has drawn the best circle.

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**Question 16:**

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Can you also make a circle with a rope and nails like Ariba?

**Answer:**

Do it by yourself. Answers may vary from student to student.

Take help of your friends and try to make a circle with a rope and nails. Check if you are able to make a good circle or not.



### Question 17:

Do the activity in small groups. Each group should take a rope of a different length. See the circles made by different groups?

#### Answer:

Do it by yourself as directed. Answers may vary.

Make three to four small groups and ask each group to make a circle with a rope of different length. Observe the shapes and the sizes of the circles made by different group.

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### Question 18:

Which group made the smallest circle?

How long was their rope?

#### Answer:

Do it by yourself. Answers may vary.

Observe the sizes of the all the circles made by each group. Write which group has made the smallest circle and also measure the length of the rope they have used.

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### Question 19:

Does longer rope make bigger circle? Why is it so?

**Answer:**

Measure the length of the rope each group had used and then observe the size of the circle made by the rope.

You will notice that the longer the rope the bigger is the circle. It is because the length of the rope is equal to the radius of the circle. A bigger circle has a bigger radius.

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**Question 20:**

What was the radius of the smallest circle?

**Answer:**

Do it by yourself. Answers may vary from student to student.

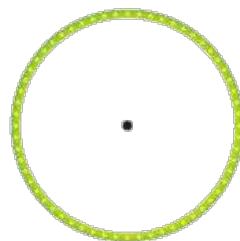
The radius of the smallest circle is the length of the smallest rope. Measure the length of the smallest rope.

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**Question 21:**

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Draw the radius of this bangle using a ruler. Measure the length of the radius.

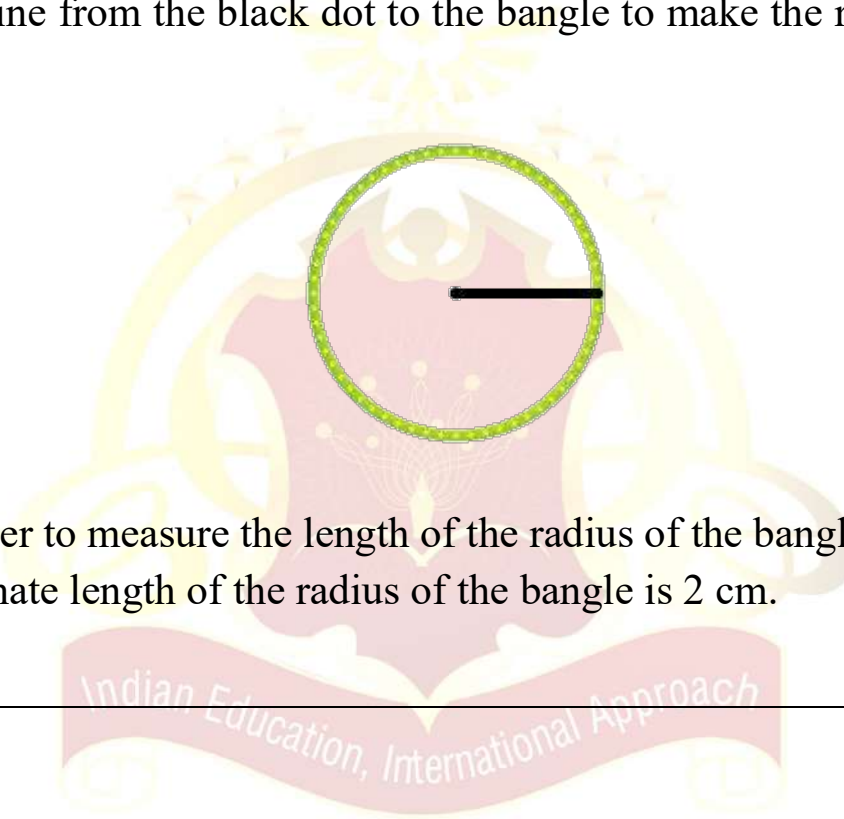


**Answer:**

The black dot in the given picture is the centre of the bangle.

The radius of the circle is the distance from the centre to the point on the circle.

Draw a line from the black dot to the bangle to make the radius of the bangle.



Use a ruler to measure the length of the radius of the bangle. The approximate length of the radius of the bangle is 2 cm.

**Question 22:**

Now see what your friends have drawn. Discuss the length of the radius they measured. Is it the same as yours?

**Answer:**

Do by yourself as directed.

Ask your friends to draw and measure the radius of the given bangle.

The measured radius of the bangle should be same as yours.

**Question 23:**

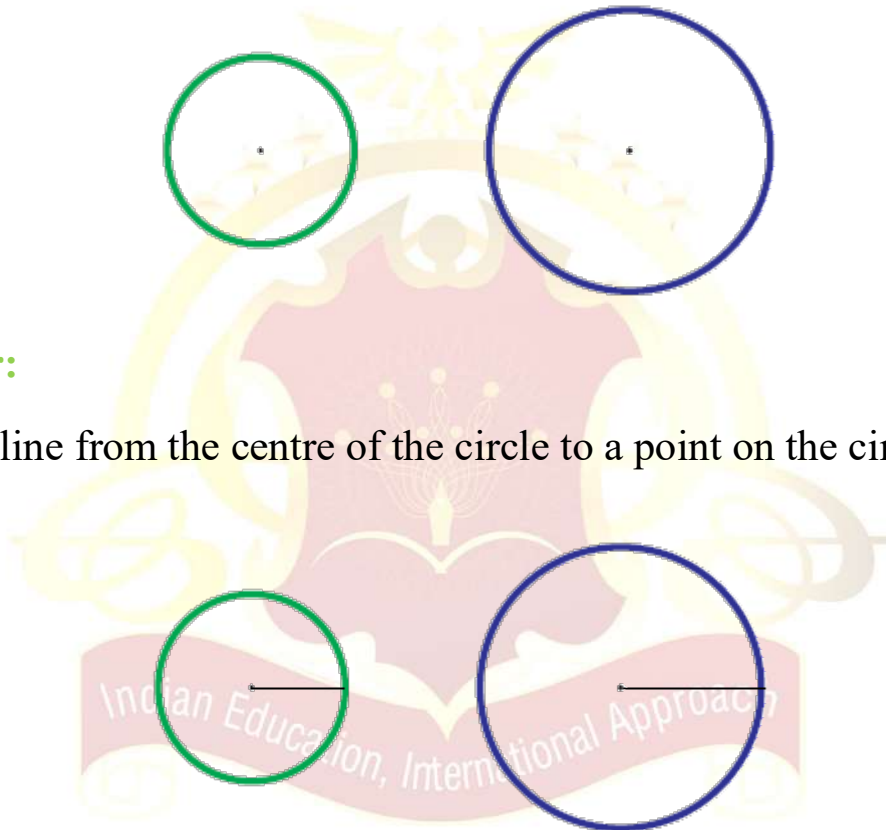
Draw the radius of these circles.

Guess which circle has the longer radius.



**Answer:**

Draw a line from the centre of the circle to a point on the circle.



The blue circle has a longer radius.

**Question 24:**

Measure the radius of both the circles using a ruler. Write the length of their radius.

Radius of the green circle \_\_\_\_\_

Radius of the blue circle \_\_\_\_\_

**Answer:**

Take a ruler and measure the lengths of radius of each circle.

The correct answer is:

Radius of the green circle is about 1 cm.

Radius of the blue circle is about 1.8 cm.

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**Question 25:**

Measure the radius of the wheels of a bicycle or a bullock-cart. You can use a thread or a measuring tape.

Are all the wheels of a bicycle or a bullock cart of the same radius?

**Answer:**

Do it by yourself as directed. Answers may vary from student to student.

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Wheels of a bicycle and a bullock-cart are circular in shape. Look around your surroundings for a bicycle or a bullock-cart. Use a thread or a measuring tape and measure the radius of the wheels of a bicycle or a bullock-cart.

You will observe that the radius of all the wheels of a bicycle or a bullock-cart are the same.



**Question 26:**

Have you seen a tractor or a road roller?

**Answer:**

Do it by yourself.

A tractor or a road roller is a motor vehicle that has large circular wheels. Think and answer if you have ever seen a tractor or a road roller.

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**Question 27:**

Which is the biggest wheel you have ever seen?

**Answer:**

Do it by yourself. Answers may vary from student to student.

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**Question 28:**

Are all wheels of a tractor or road roller of the same radius?

**Answer:**

A tractor or a road roller has wheels of different sizes. Therefore, all wheels of a tractor or road roller are not of the same radius.

**Question 29:**

Lali and Kali are tied to a pole with ropes. Kali has a longer rope. Who can look for more grass to eat?



**Answer:**

Consider each rope as a radius of a circle. Since Kali has a longer rope, Kali can move around a bigger circular area.

So, Kali can look for more grass to eat.

**Question 30:**

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Do you get a circle?

**Answer:**

Do it by yourself.

Take a compass and open it. Place the tip of the compass on the paper and then move the pencil around without moving the tip. Check did you get a circle or not.

### Question 31:

Is this circle better than the one you made earlier without a compass?  
Draw the radius of this circle and measure it.

#### Answer:

Do it by yourself.

Compare the circles which you have drawn with a compass and the one you have drawn with the help of ropes.

The circle drawn with the help of the compass should be better and smoother than the circle drawn with the ropes.

Draw a line from the point where you placed the tip of the compass to a point on the circle to get the radius of the circle.

Use a ruler to measure the length of the radius drawn by you.

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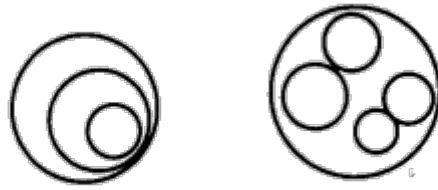
### Question 32:

Now you can make your own designs like Daljeet had made. How many did you make?

#### Answer:

Do it by yourself. Answers may vary from student to student.

Following are some sample designs:



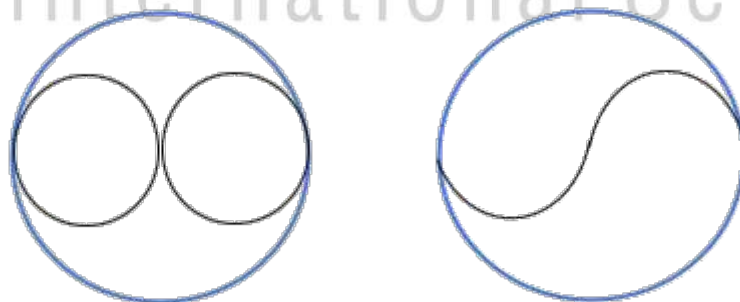
**Question 33:**

Guess how this design has been made. Use a compass to make a similar one in the box.

**Answer:**

This design is made by making a big circle at first and then two smaller circles inside.

The opposite half side of each smaller circle is then erased to get the design.



**Question 34:**

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Why did Naina get such a drawing? Discuss.

**Answer:**

While drawing the circle with the compass Naina must have removed the tip of the circle that has changed the centre of the circle.

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**Question 35:**

Can a circle have more than one centre?

**Answer:**

No, a circle can have many radii but cannot have more than one centre.

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**Question 36:**

Did any one of you ever get a shape like Naina's?

**Answer:**

Do it by yourself. Answers may vary.

Observe the shape of the circles which you and your friends have drawn using the compass and check if it looks similar to Naina's.



**Question 37:**

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Now you trace a circle on a paper using a bangle. Cut it. Then find its centre like Sameena did?

**Answer:**

Do it yourself. Use a bangle and trace a circle on a paper and then cut the circle.

Fold the circle from the middle to divide it into two parts and again fold the folded circle from middle to divide it into four parts. Then open the folded circle. You will find two creased lines. The point where these lines intersect each other is the centre of the circle.

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**Question 38:**

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You also try to balance a plate or a round lid on your finger. Where does it balance?

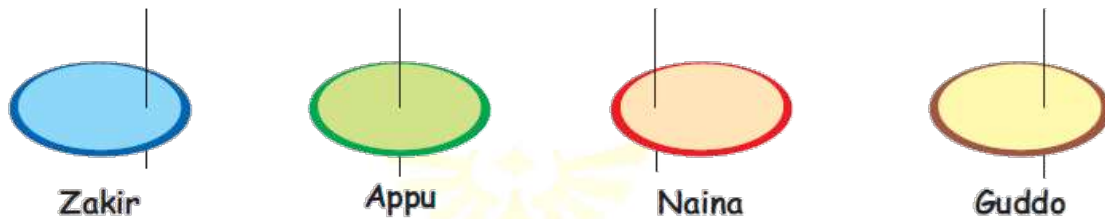
**Answer:**

Do it by yourself. Take a plate or a round lid on your finger and try to balance it.

It will get balanced at the centre.

**Question 39:**

Now everybody was excited to spin their tops which looked like this:



Guess:

Whose top will not spin at all?

**Answer:**

It is observed that the stick in the top of Zakir and Naina is at the side. Therefore, Zakir's and Naina's top will not spin at all.

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**Question 40:**

Whose top will spin a little?

**Answer:**

The stick in the Guddo's top is near to the centre. Therefore, his top will spin a little.

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**Question 41:**

Whose top will spin the best?

**Answer:**

The stick in the Appu's top is at the centre. Therefore, his top will spin the best.

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**Question 42:**

In whose top is the stick nearest to the centre?

**Answer:**

In Appu's top the stick is nearest to the centre.

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**Question 43:**

To make the top spin well, where will you make the hole?

**Answer:**

To make the top spin well the hole should be made in the centre.