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**DIRECTIONS IN GIS**

# What is meant by Direction ?

- ❑ Direction is the information contained in the relative position of one point with respect to another point without the distance information.
- ❑ Directions may be either relative to some indicated reference, or absolute .
- ❑ Direction is often indicated manually by an extended index finger or written as an arrow.

- ❑ On a vertically oriented sign representing a horizontal plane, such as a road sign, "forward" is usually indicated by an upward arrow.



# ASKING FOR AND GIVING DIRECTIONS



## ASKING FOR DIRECTIONS

- How do I get to...?
- How can I get to...?
- Can you tell me the way to...?
- Where is...?

# ASKING FOR AND GIVING DIRECTIONS

## GIVING DIRECTIONS

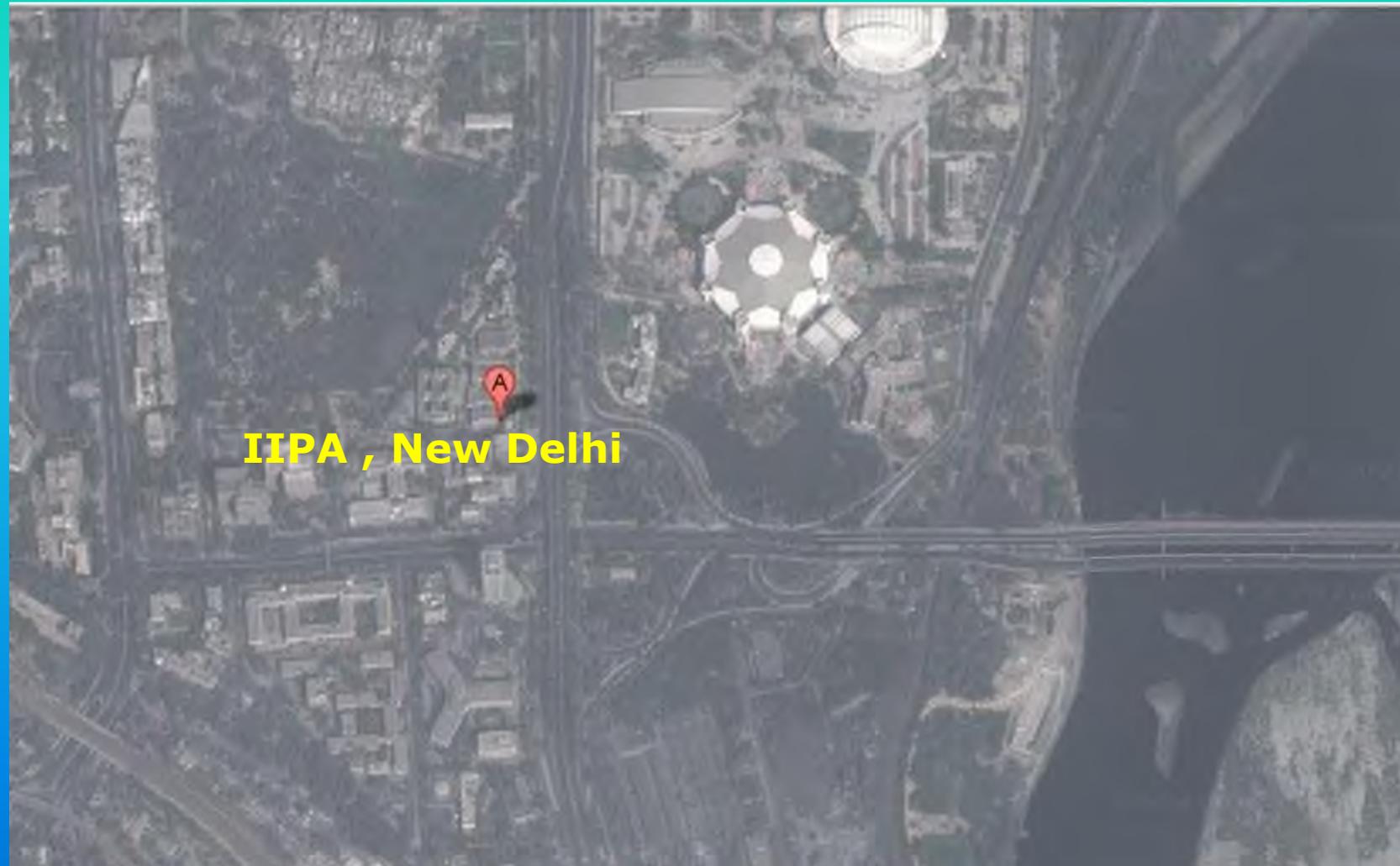
- Go straight on
- Turn left/right (into ... street).
- Go along /up / down ... street
- Take the first/second road on the left/right
- It's on the left/right.



# GIVING DIRECTIONS

- opposite
- near
- next to
- between
- at the end (of)
- on/at/ around the corner
- behind
- in front of





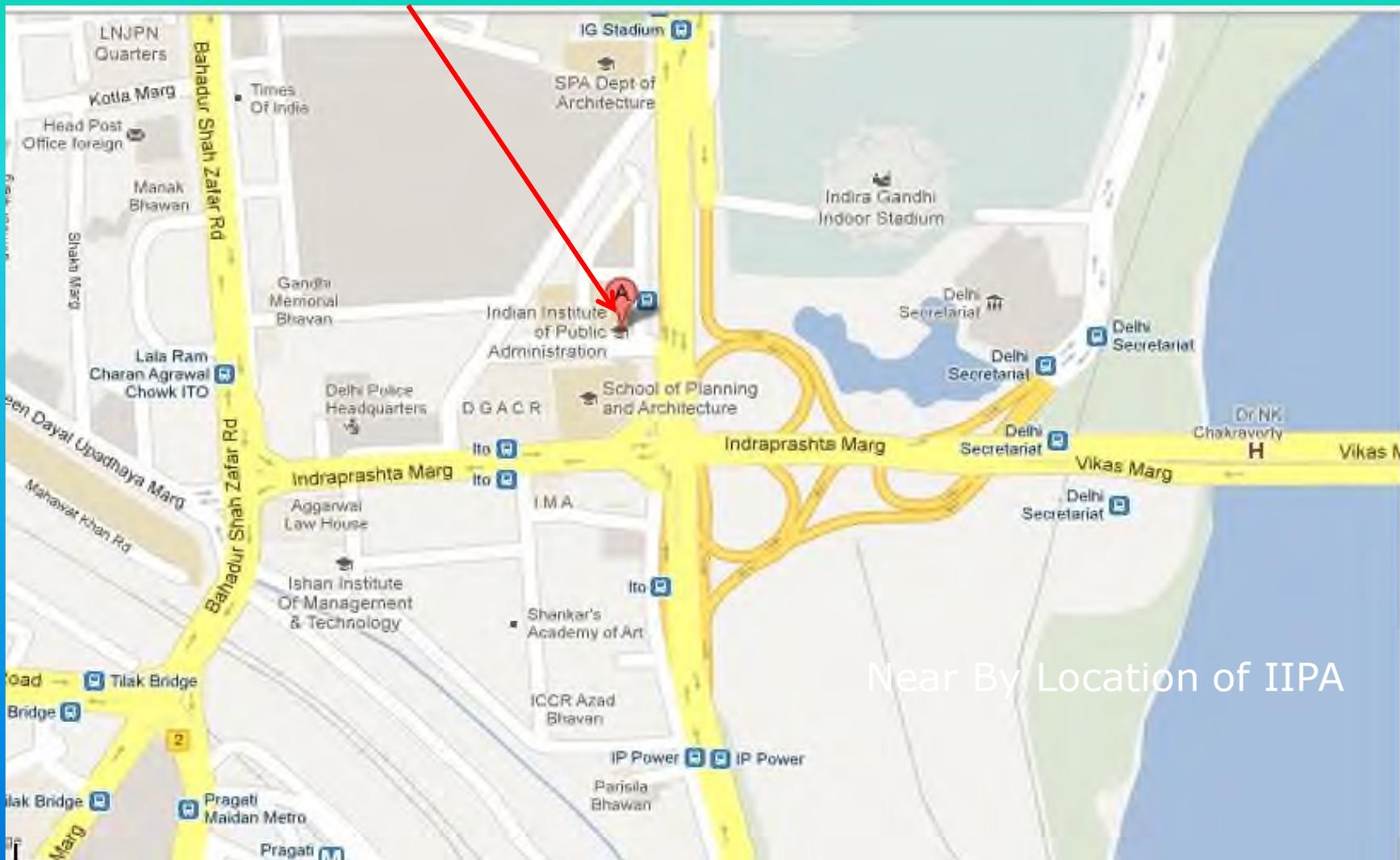
**IIPA , New Delhi**



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We Are Here



Near By Location of IIPA



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## Driving directions to Indian Institute of Public Administration



**Mahatma Gandhi Rd**

1. Head toward Dr KB Hedgewar Marg/  
Mahatma Gandhi Marg  
east on Mahatma Gandhi Rd



2. Turn right onto Dr KB Hedgewar Marg/  
Mahatma Gandhi Marg

3. Continue straight  
onto Mahatma Gandhi Rd

4. Continue onto Raj Ghat Bypass Road

5. Continue onto Mahatma Gandhi Rd



6. Take the exit toward Indraprashta Marg



7. Turn left onto Indraprashta Marg



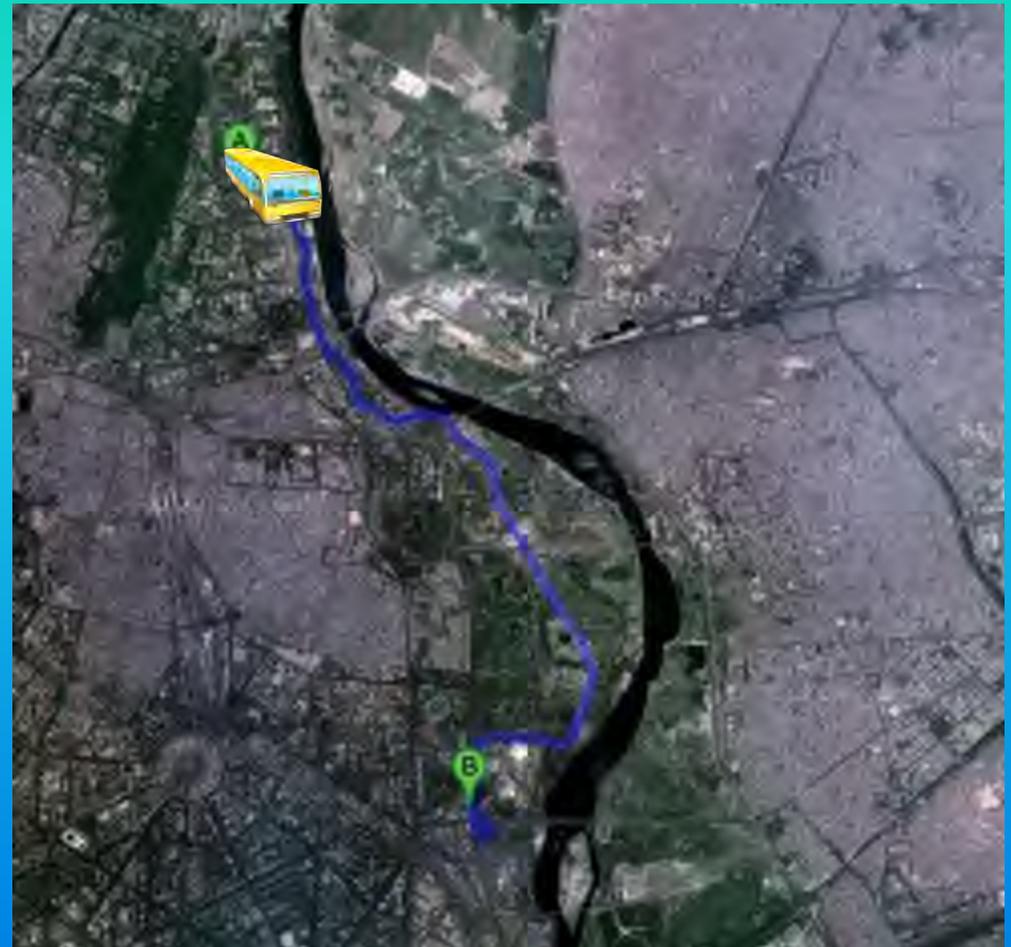
8. Turn right



9. Slight right  
Destination will be on the right

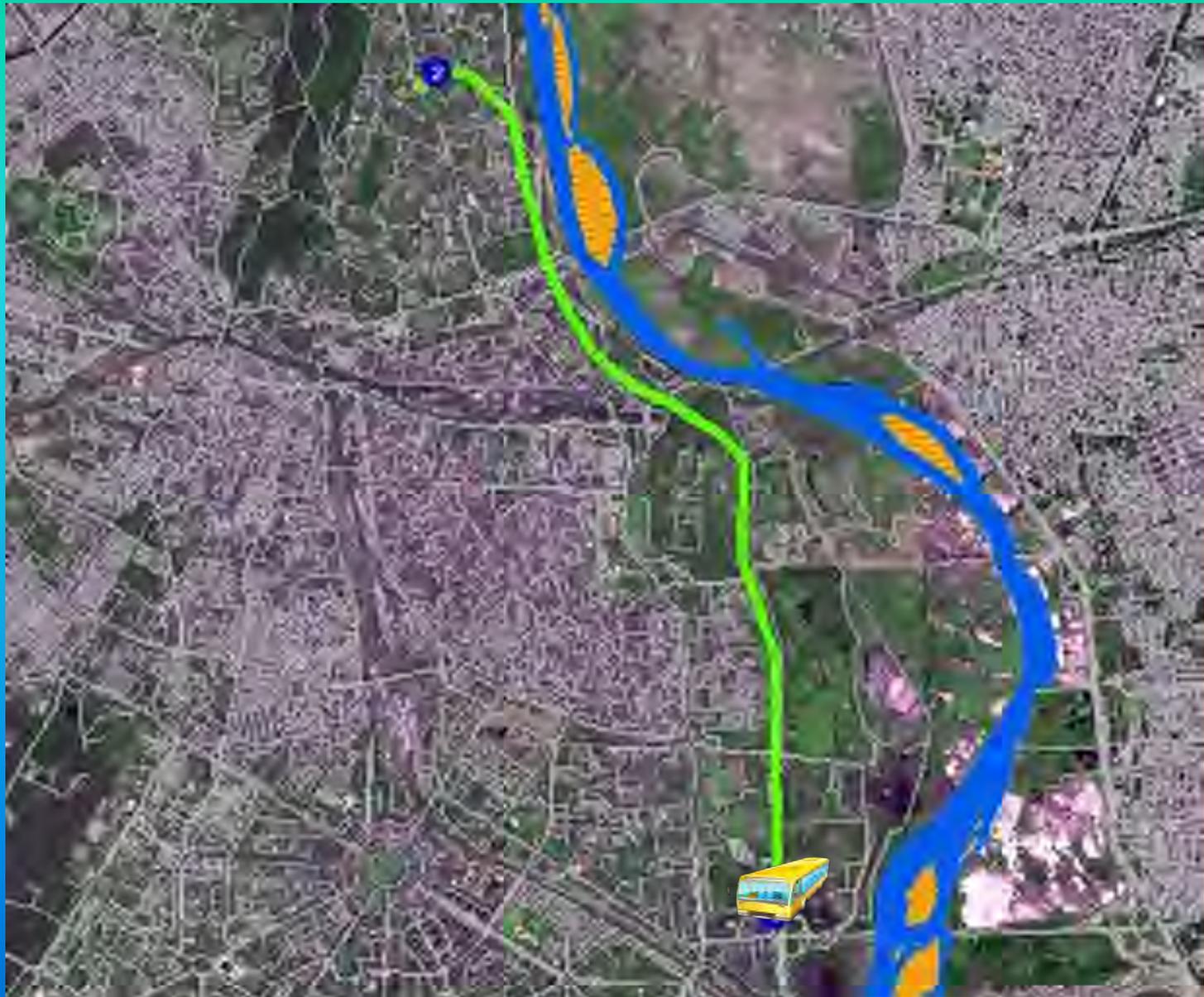


**Indian Institute of Public Administration**  
Indraprastha Estate, -110002  
Mahatma Gandhi Marg, New Delhi, DL, India



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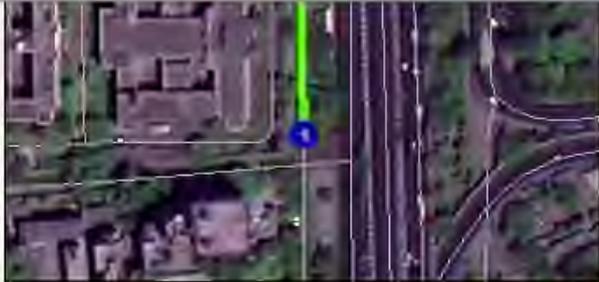
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Directions (Route)



3: Turn left on MAHATMA GANDHI MARG RING ROAD 6119.3 m [Map](#)

4: Bear right to stay on MAHATMA GANDHI MARG RING ROAD 505.2 m [Map](#)

5: Make U-turn at SHAMNATH MARG and go back on MAHATMA GANDHI MARG RING ROAD 219.5 m [Hide](#)



6: Finish at Graphic Pick 2, on the left [Hide](#)



Options... Print Preview... Save As... Print Close



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# WHAT WORDS ARE MISSING?



GO \_\_\_\_\_  
THE STREET



GO ON  
\_\_\_\_\_



GO \_\_\_\_\_ THE  
STREET



TURN  
\_\_\_\_\_



TAKE THE  
FIRST ON  
THE \_\_\_\_\_



TAKE THE  
FIRST ON  
THE  
\_\_\_\_\_



TURN \_\_\_\_\_



TURN \_\_\_\_\_

WHAT WORDS ARE MISSING? Check your answers



GO **Stright** THE  
STREET



Pass through  
**Narrow Bridge**



GO **UP** THE  
STREET



TURN **Around**



TAKE THE  
FIRST ON  
THE **left**



TAKE THE  
FIRST ON  
THE **right**



TURN **right**



TURN **left**

## FILL THE GAPS WITH THE WORDS :

A- Excuse me, how Can I get to the castle?

B- Go \_\_\_\_\_ this road, then \_\_\_\_\_ left and continue for about 100 metres. Then take the second turn on the \_\_\_\_\_. Go \_\_\_\_\_ on for about 150 metres. The castle is at the \_\_\_\_\_ of the road, \_\_\_\_\_ the cinema.

A- Thank you very much.

B- You're Welcome.





**FILL THE GAPS WITH THE WORDS PROVIDED: Check!**

A- excuse me, how can I get to the castle?

B- Go **along** this road, then **turn** left and continue for about 100 metres. Then **take** the second turn on the **right** . Go **straight** on for about 150 metres. The castle is at the **end** of the road, **opposite** the cinema.

A- Thank you very much.

B- You're welcome.

# Cardinal Direction



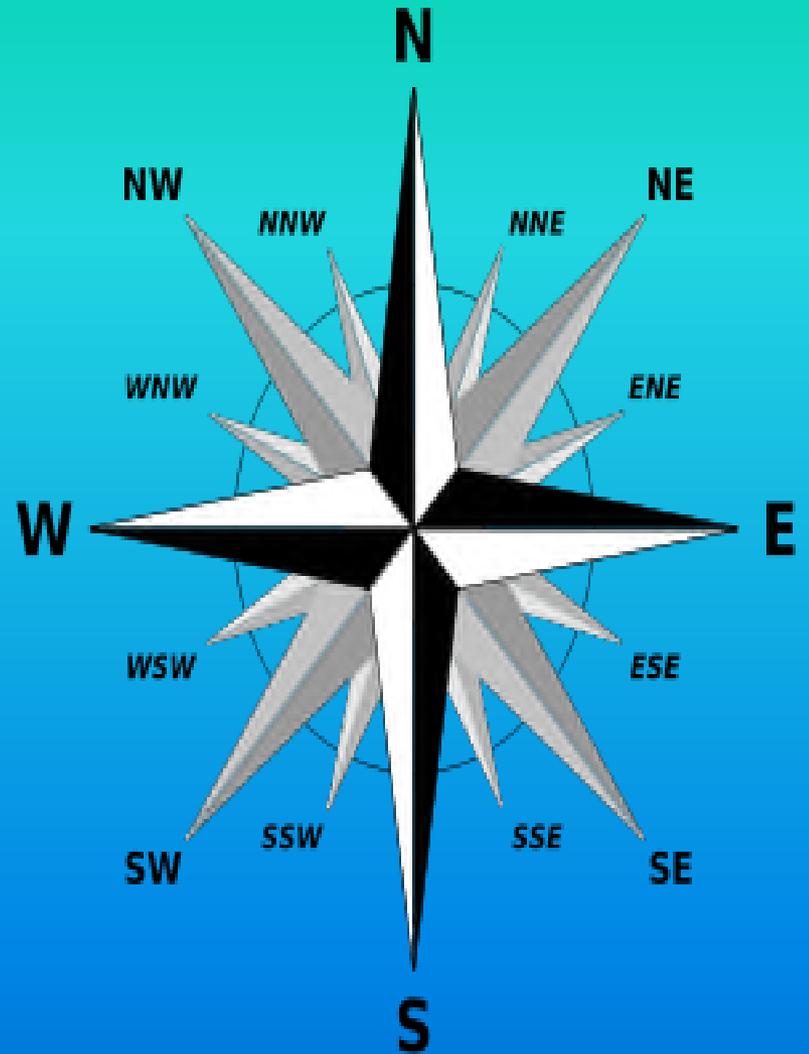
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❑ The four cardinal directions or cardinal points are the directions of North, East, South and West, commonly denoted by their initials: N, E, S, W.

❑ East and west are at right angles to north and south, with east being in the direction of rotation and west being directly opposite.

❑ Intermediate points between the four cardinal directions form the points of the compass.



❖ **Cardinal Directions are the most commonly used forms of direction. and include North, South, East and West.**

❖ **The four equal divisions - Northeast, Southeast, Southwest and Northwest - are called Primary Inter Cardinal directions.**

❖ **Additional subdivisions indicated on the compass rose, between the Cardinal and Primary Inter Cardinal directions are in fact called Secondary Inter Cardinal directions, but they are hardly ever used. Example: North-Northeast.**



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- ❑ On Earth, upright observers facing north will have south behind them, east on their right, and west on their left. Most devices and methods for orientation therefore operate by finding north first, although any other direction is equally valid, if it can be reliably located
- ❑ If you can't remember which way round 'West' and 'East' are, they read 'we'.

# Layman's approach to identify directions



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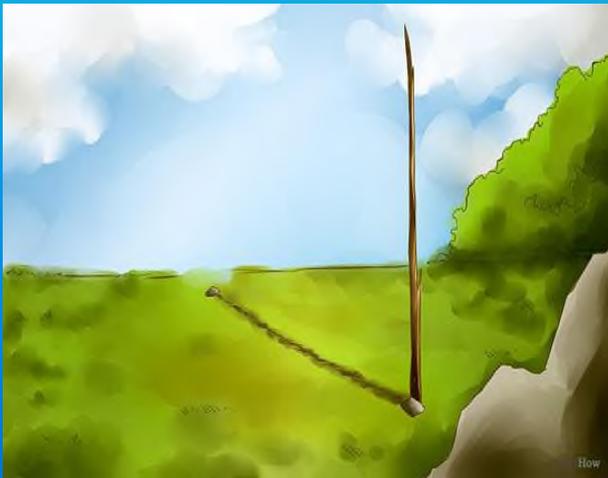
# How to Determine Directions :

- Shadow Method
- Watch Method
- Astronomy Method : Locate the North Star

# Shadow Method



- Place a stick upright on the ground so that you can see its shadow.
- Narrower the tip of the object is, the more accurate the reading will be.
- Make sure the shadow is cast on a level.



- Mark the tip of the shadow with a small object, such as a pebble, or a distinct scratch in the ground.
- Try to make the mark as small as possible so as to pinpoint the shadow's tip

- Mark the new position of the shadow's tip with another small object or scratch. It will likely move only a short distance.
- Draw a straight line in the ground between the two marks. This is an approximate east-west line.
- Stand with the first mark (west) on your left, and the other (east) on your right. You are now facing mostly toward true north, regardless of where you are in the world.



## Watch Method:

Find an analog watch that is set accurately. Place it on a level surface, such as the ground, or hold it horizontal in your hand



- Bisect (that is, find the center point of) the angle between the hour hand and the twelve o'clock mark.
- The center of the angle between the hour hand and twelve o'clock mark is the north-south line

## Locate the North Star (Northern Hemisphere) :

- Locate the North Star (Polaris) in the night sky.
- The North Star is the last star in the handle of the Little Dipper constellation.
- Draw an imaginary line down from the North Star to the ground; this is approximately where true north is.



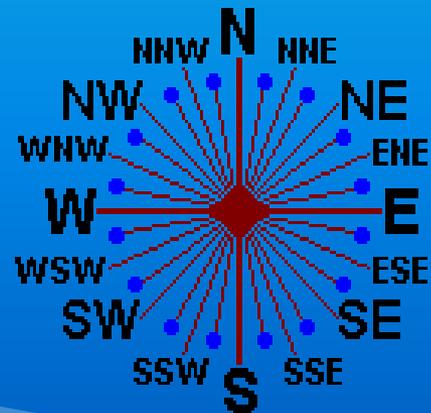
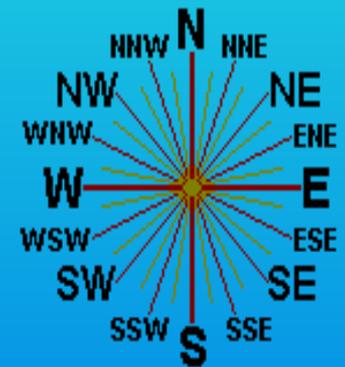
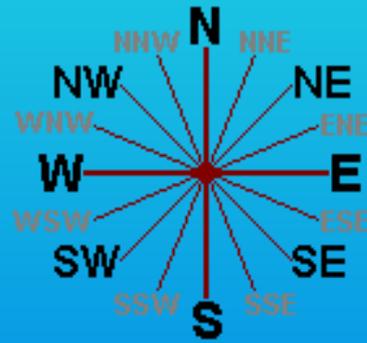
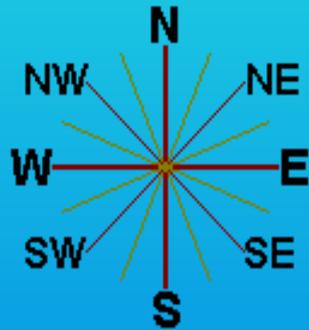
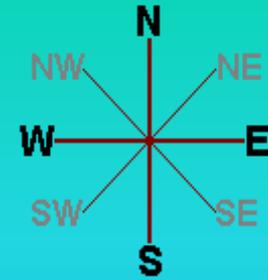
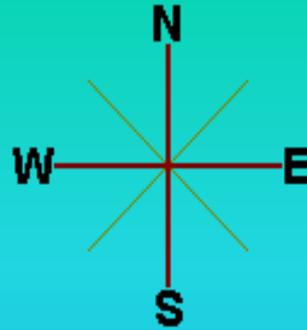
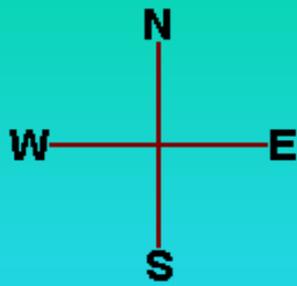
# COMPASS



A compass is a navigational instrument that measures directions in a frame of reference that is stationary relative to the surface of the earth

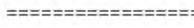
# How do we determine the absolute location of features....?

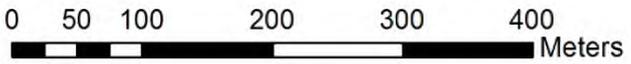
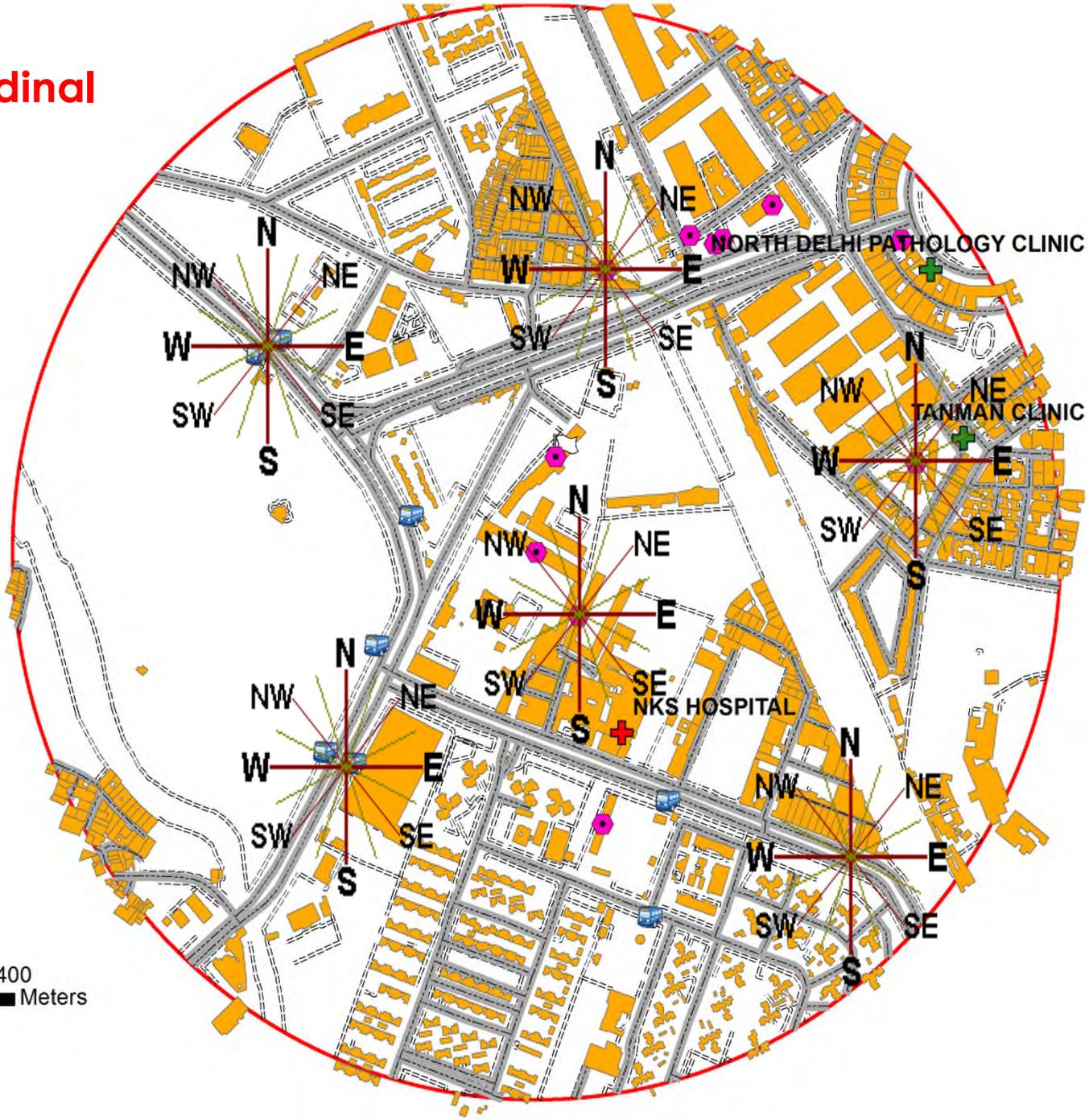
- Angle / Bearing
- Distance



# Distribution of Cardinal Direction

## Legend

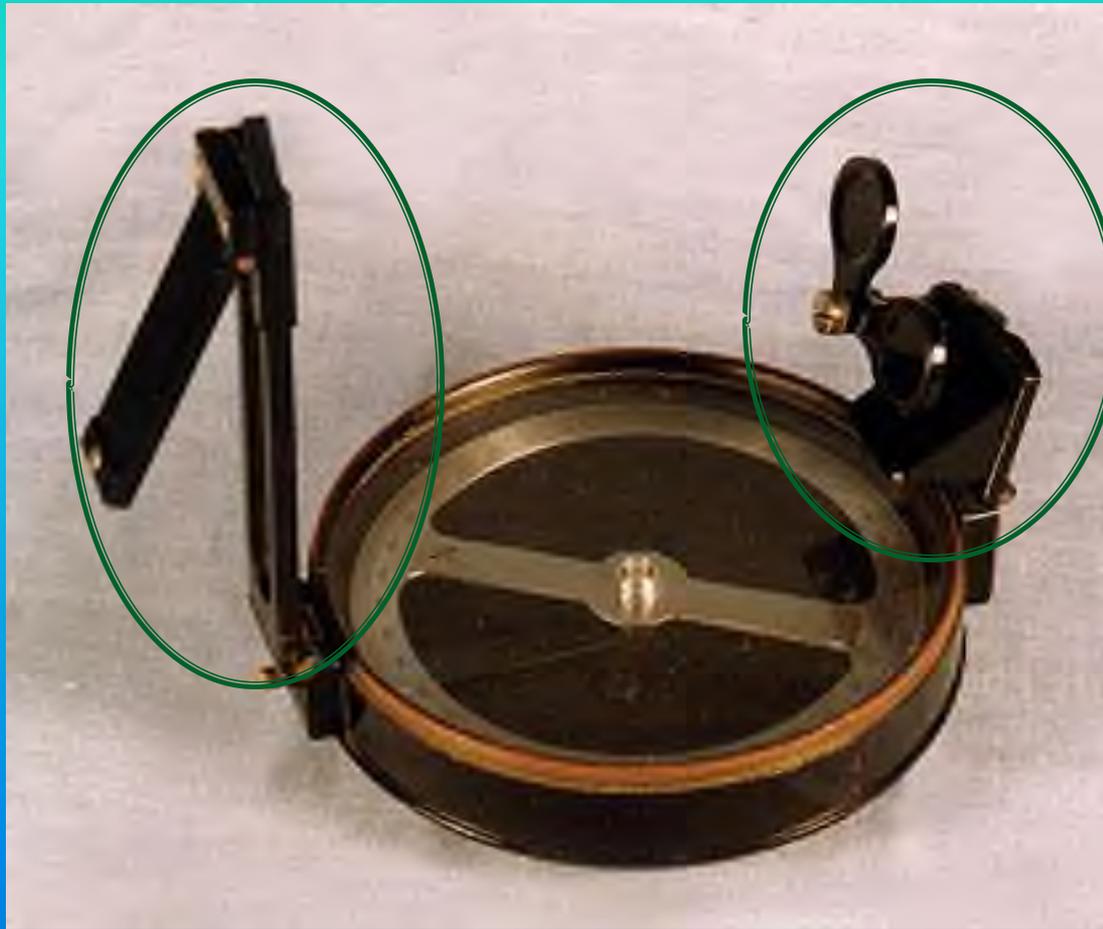
-  Schools
-  Bus\_stop
-  Hospital
-  Clinic
-  Gurudwara
-  RoadCenterLine
-  FenceWalled
-  Buildings



## **BEARING :**

- Bearing is an angle measured clockwise from a north south line to a line connecting the observer's position with the object .
- It gives the direction of an object from the other object accurately .

# Prismatic compass...



**At what angle NKS hospital is located  
with reference to the north ?**



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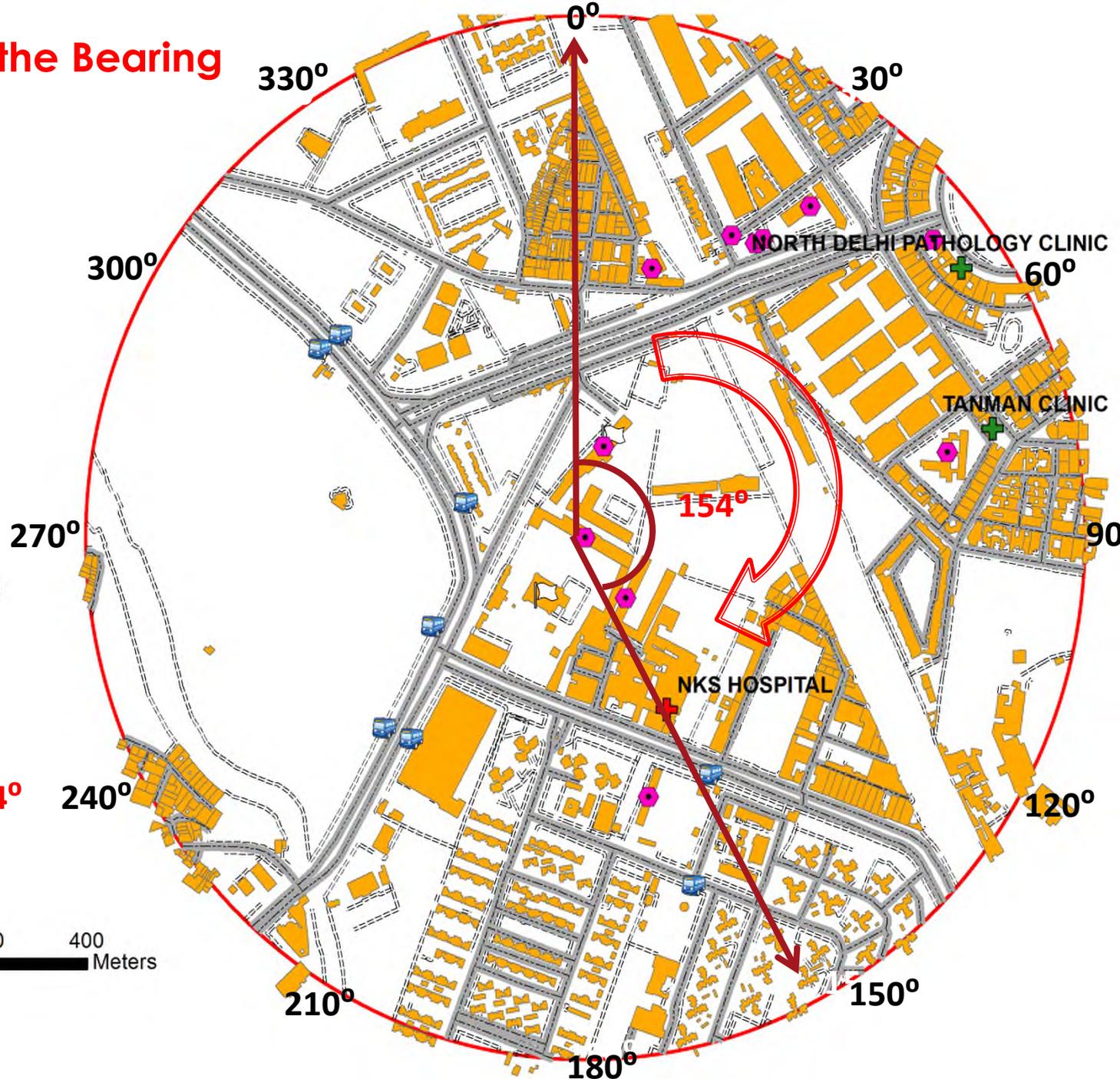
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# Recording the Bearing

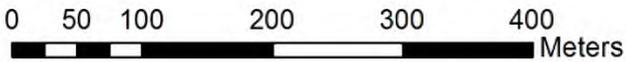


## Legend

- Schools
- Bus\_stop
- Hospital
- Clinic
- Gurudwara
- RoadCenterLine
- FenceWalled
- Buildings



**NKS hospital = 154°**



# Measuring Distance



## Legend

- Schools
- Bus\_stop
- Hospital
- Clinic
- Gurudwara
- RoadCenterLine
- FenceWalled
- Buildings



**NKS hospital = 154°  
angle and 200 meter  
distance .**

0 50 100 200 300 400  
Meters

South East

## Plotting the point on the map with the scale of 1:3000

If distance on ground = 200 m. or 20,000 cm.

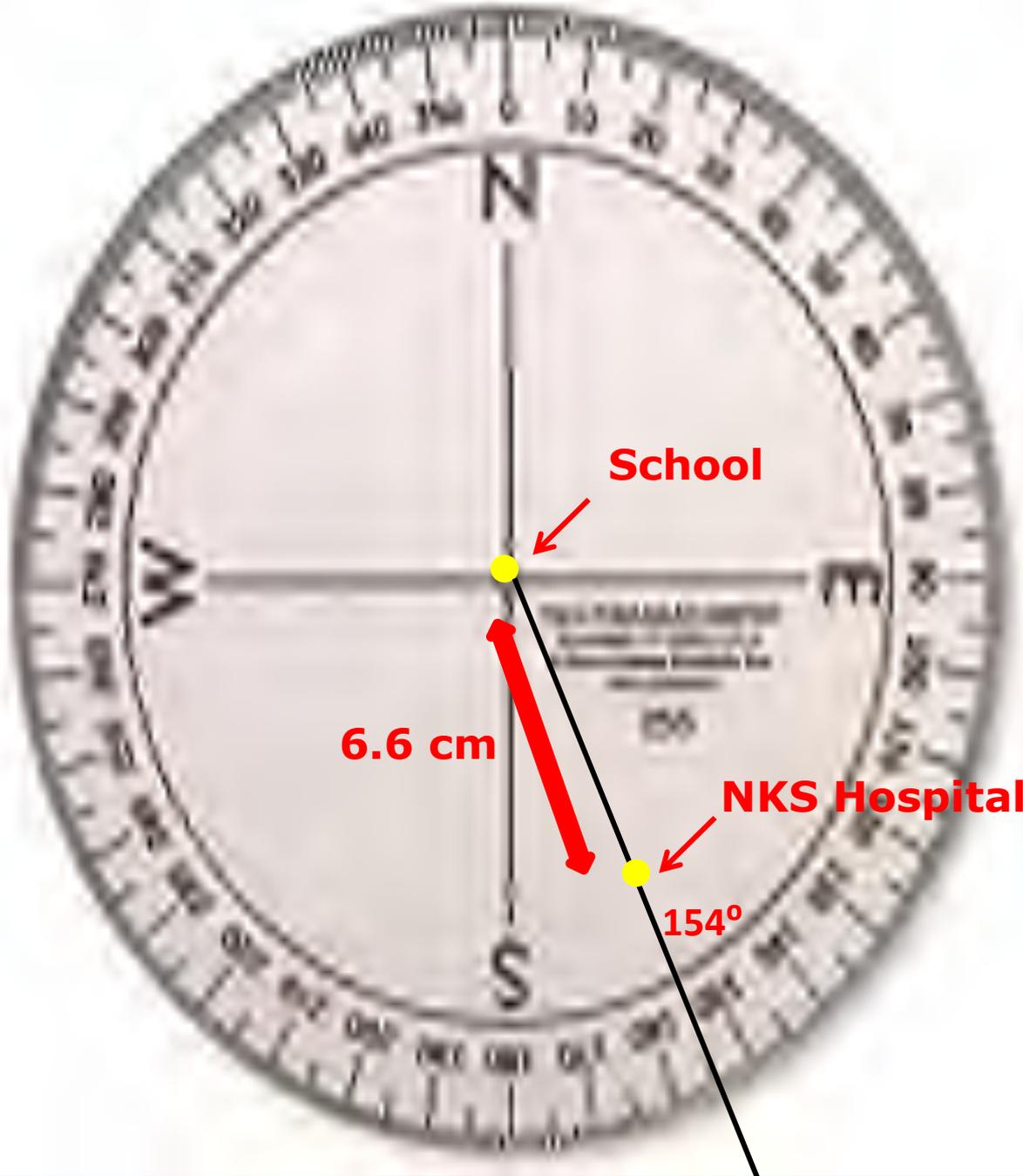
distance on map =  $20000/3000$

= 6.6 cm on map



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## Geo-gaming with directions

Find out the location of below mentioned objects with the help of bearing and distance. Plot it on the given map. Reference scale is 1:3000.

Level	Object to locate	Bearing	Distance in meter
1	Rajiv chowk - PVR plaza	5°	210m
	Rajiv chowk - Odeon cinema	59°	198m
	Rajiv chowk - W G Hospital	122°	237m
2	Odeon cinema - Balshyam vidyalaya	28°	153m
	Odeon cinema - Bal sahyog middle school	50°	147m
	Odeon cinema - Hanuman mandir	86°	243m
3	W G hospital - Ganesh Temple	62°	351m
	W G hospital - Shiv Temple	101°	294m
	W G Hospital - Hotel Bright	45°	135m
	W G Hospital - Holiday Inn hotel	213°	120m

# Action



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