BISHOP SCOTT BOYS' SCHOOL
(Affiliated to CBSE, New Delhi) Affiliation No.: 330726, School Campus: Chainpur, Jaganpura, By-Pass, Patna 804453.
Phone Number: 7061717782, 9798903550. ,
Web: www.bishopscottboysschool.com Email: info@bishopscottboysschool.com

ONLINE STUDYMATERIAL

SUBJECT-Maths

SESSION-2020-21

CLASS- 6

CHAPTER No-5

TOPIC: Understanding Elementary Shapes

DAY-1

- **NCERT MATERIAL**

Chapter 5.1 from NCERT book.

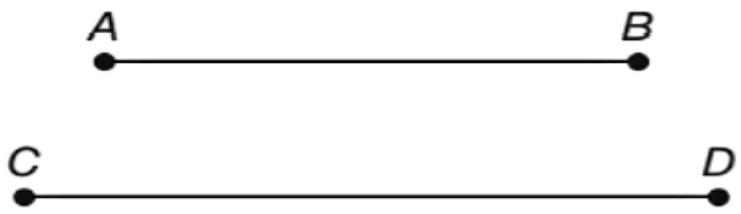
- **NOTES**

★ **Measuring Line segments**

We have drawn and seen so many line segments.
A line segment is a fixed portion of the line. This makes it possible to measure a line segment.
To compare any two line segments, we find a relation between their lengths, this can be done in several ways.

1) Comparison by observation

By just looking at them can you tell which one is longer?
You can see that AB is longer

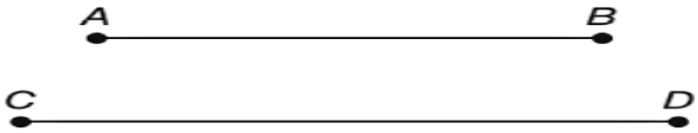


But you cannot always be sure about your usual judgement.

P Q M N

The difference in lengths between these two may not be obvious. This makes other ways of comparing necessary.
In the above figure, PQ and MN have the same lengths. This is not quite abvious.
So we need better methods of comparing line segments.

2) Comparision by tracing



To compare the line segments AB and CD, we use a tracing paper, trace CD and place the traced segment on AB.

Can you decide now which one among is longer?

The method depends upon the accuracy in tracing the line segments. Moreover, if you want to compare with another length, you have to trace another line segments. This is difficult and you cannot trace the lengths every time you want to compare the length.

- ❖ **VIDEO-LINKS**

https://youtu.be/2-PmfR_Jgcw

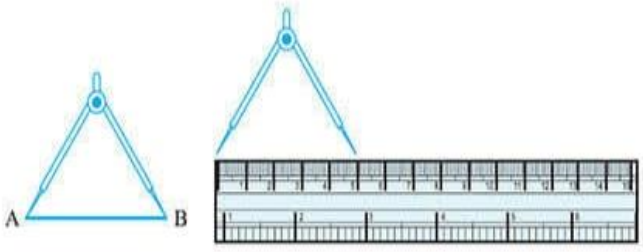
DAY-2

- **NCERT MATERIAL**
  Chapter 5.1from ncert book.
- **NOTES**

3) Comparision using ruler and divider

Have you seen or can you recognise all the instruments in your instrument box?
Among other things, you have a ruler and a divider.

Place the zero mark of the ruler at A. Read the mark against B. This gives the length of AB. Suppose the length is 5.8 cm, we may write.
Length AB = 5.8 cm
There is room for errors even in this procedure. The thickness of the ruler may cause difficulties in reading off the marks on it.
Let us use the divider to measure length.
Open the divider. Place the end point of the arms at A and the end point of the second arm at B. Taking care that opening of the divided is not disturbed.

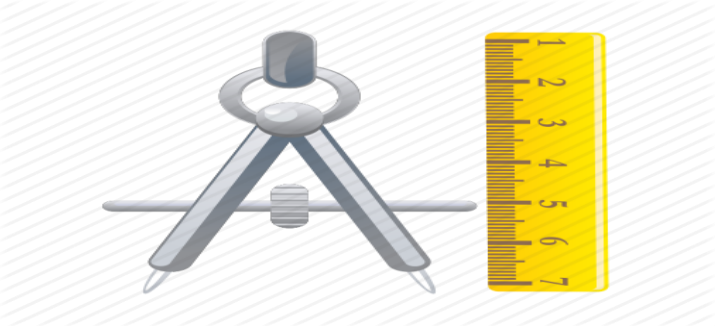


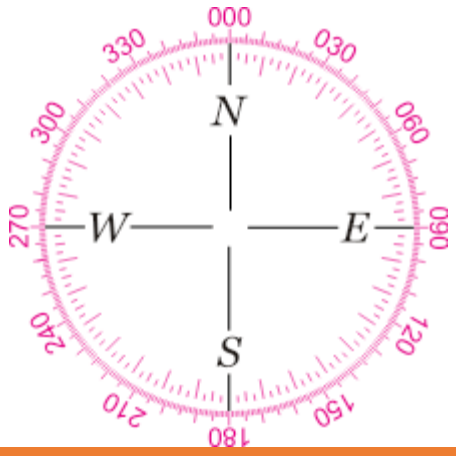
Exercises

Q. 1) What is the disadvantage in comparing line segments be mere observation.
Q. 2) Why is it better to use a divider than a ruler, while measuring the length of the line segments.
Q. 3) Draw any line segments say AB. Take any point C lying in between A and B. Measure the lengths of AB, BC and AC. Is AB = AC + CB?
Q. 4) If A, B, C are three points on a line such that AB = 5cm , BC = 3cm and AC = 8 cm, which one of them lies between the other two?

VIDEO-LINKS

https://youtu.be/Z5U--WgHn4s



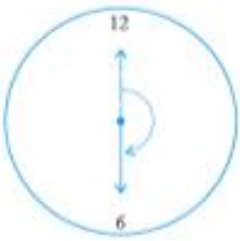


DAY-3

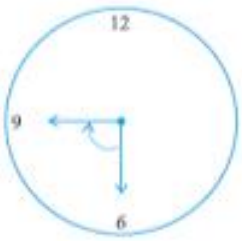
- **NOTES**

Angles - Right and Straight

There are four main directions. They are North(N) , South(S), East(E) and West (W).
Do you know which direction is opposite to North.



From 12 to 6
$\frac{1}{2}$ of a revolution.
or 2 right angles.

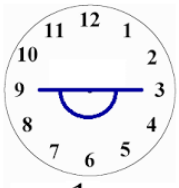


From 6 to 9
$\frac{1}{4}$ of a revolution
or 1 right angle.

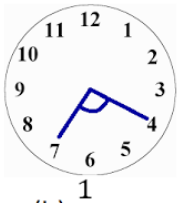
From 1 to 10
$\frac{3}{4}$ of a revolution
or 3 right angles.

Turn clockwise to east.
We say, you have turned through a right angle.
Follow this by a right angle turn, clockwise. You now face south.
If you turn by a right angle in the anti - clockwise direction, which direction will you face? It is east again.
Study the following position:

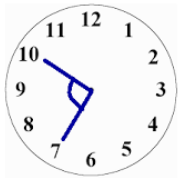
Now we will see some more examples



(a) $\frac{1}{2}$



(b) $\frac{1}{4}$



(c) $\frac{1}{4}$

(d) $\frac{3}{4}$

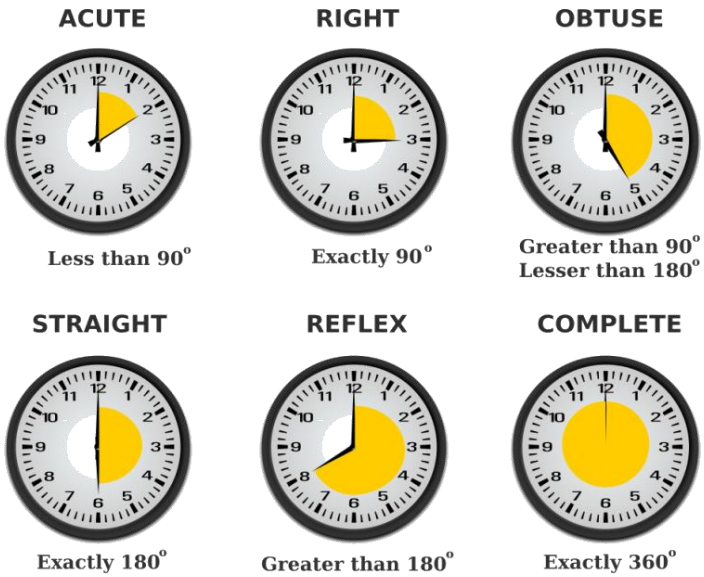
(e) $\frac{3}{4}$

(f) $\frac{3}{4}$

Some more examples

VIDEO-LINKS

https://youtu.be/X_QyEotR-kU
https://youtu.be/y0ToFT6O06Y



DAY-4

○ NCERT MATERIAL

Chapter 5.2 from ncert book.

○ Exercises

- **What fraction of a clockwise revolution does the hour hand of a clock turn through, when it goes from**
  a) 3 to 9 b) 4 to 7 c) 7 to 10
  d) 12 to 9 e) 1 to 10

- **Where will be the hand of the clock stop if it**
  a) starts at 12 and makes 1/2 of the revolution, clockwise?

  b) starts at 5 and makes 1/4 of the revolution, clockwise?

  c) starts at 5 and makes 3/4 of the revolution, clockwise?

- **What part of a revolution have you turned through if you stand facing**
  a) east and turn clockwise to face North

  b) south and turn clockwise to face east?

  c) west and turn clockwise to face east?

- **Find the number of right angles turned through by the hour hand of a clock when it goes from:-**
  a) 3 to 6 b) 2 to 8 c) 5 to 11 d) 10 to 1

- **How many right angles do you make if you start facing**
  a) South and turn clockwise to West?

  b) North and turn anti - clockwise to East?

  c) South and turn to North?

- **Where will the hour hand of the clock stop if it starts**
  a) from 6 and turns through 1 right angle?

  b) from 8 and turns through 2 right angles?

  c) from 10 and turns through 3 right angles

❖ VIDEO-LINKS

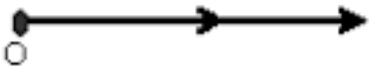
https://youtu.be/rZcmXhEo_kU

Notes

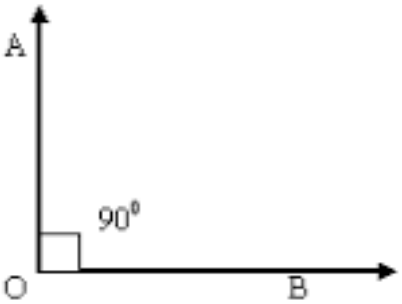
Types of angles

Types of angles:

- **Zero Angle:** If the initial and final positions of a ray coincide without any rotation, the angle formed is zero angle.



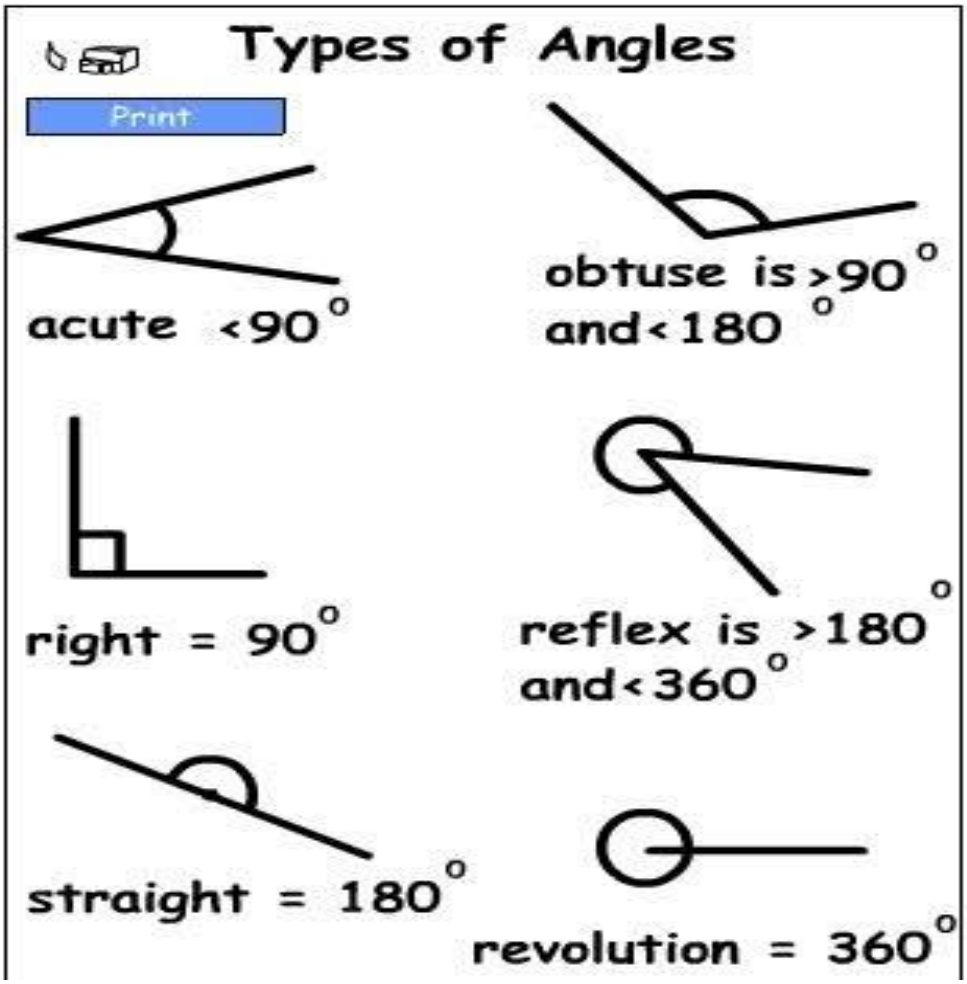
- **Right Angle:** If the final position of the ray is one fourth of the complete revolution, the angle between the initial and final positions is called right angle.



- **Straight Angle:** Let OA represents initial position of a ray and OB represents the final position such that OA and OB are opposite rays, the angle so formed between opposite rays is a straight angle.

- **Complete Angle:** If the ray rotates one complete turn and coincides with its initial position then the angle formed is a complete angle.
- **Acute Angle:** An angle whose measure is greater than 0° but less than 90° is called an acute angle.
- **Obtuse Angle:** An angle whose measure is more than 90° but less than 180° is called an obtuse angle.
- **Reflex Angle:** An angle whose measure is more than 180° but less than 360° is called a reflex angle.

For example:-

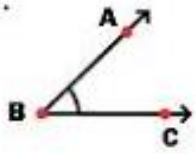


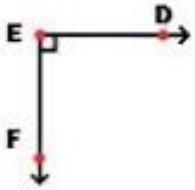
Exercises Q. 1)

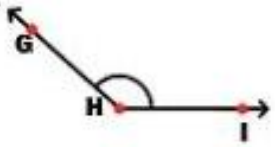
Match the following :

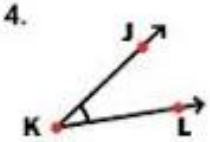
(i) Straight angle	(a) Less than one-fourth of a revolution
(ii) Right angle	(b) More than half a revolution
(iii) Acute angle	(c) Half of a revolution
(iv) Obtuse angle	(d) One-fourth of a revolution
(v) Reflex angle	(e) Between $\frac{1}{4}$ and $\frac{1}{2}$ of a revolution

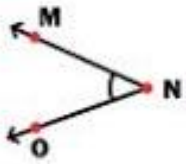
Q. 2) Classify the following angles as acute, abtuse and right

1. 

2. 

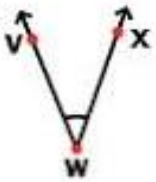
3. 

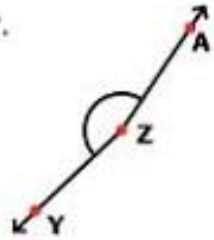
4. 

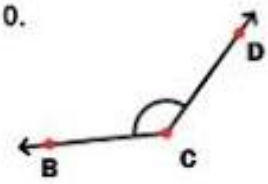
5. 

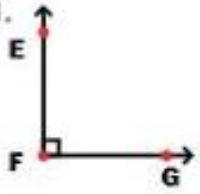
6. 

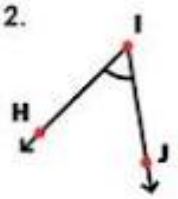
7. 

8. 

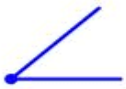
9. 

10. 

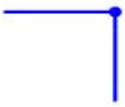
11. 

12. 

Q. 3) Match the following

1. 

A. obtuse

2. 

B. right angle

3. 

C. straight line

4.

D. acute

Video links
https://youtu.be/UgfSwlqi4Qg
http://youtu.be/dqg1DQCJa-E

Mind map