ODM EDUCATIONAL GROUP
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SESSION : 1

CLASS : V

SUBJECT : MATHEMATICS

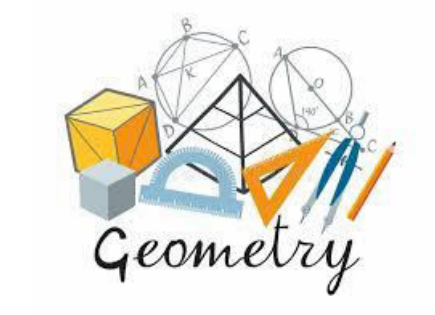
CHAPTER NUMBER: 15

CHAPTER NAME : GEOMETRY

SUB-TOPIC : THE BASIC CONCEPT OF GEOMETRY.

EX-15 A Q. 1 & 2 IN THE BOOK.

Website: www.odmegroup.org
Email: info@odmps.org
Toll Free: 1800 120 2316
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024



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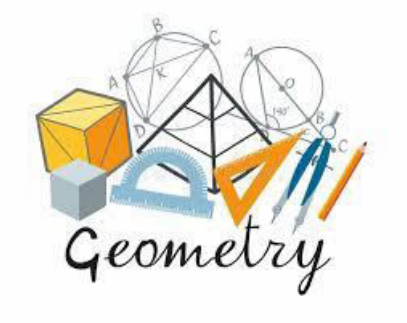
POINT : A point is a figure which doesn't have any definite shape or circumference.

- ❖ No particular shape
- ❖ No length
- ❖ No breadth

LINE: it is a straight one dimensional figure having no thickness extending in both directions.



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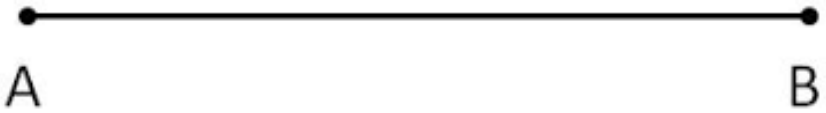
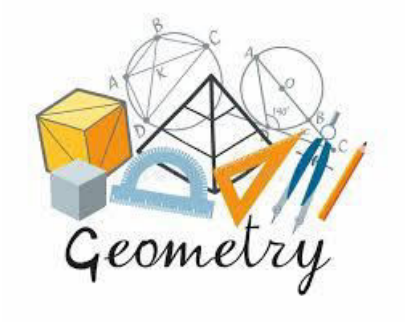
LINE SEGMENT: A part of line that is bounded by two distinct end points.



RAY : A part of line which has a definite starting point but no end point.



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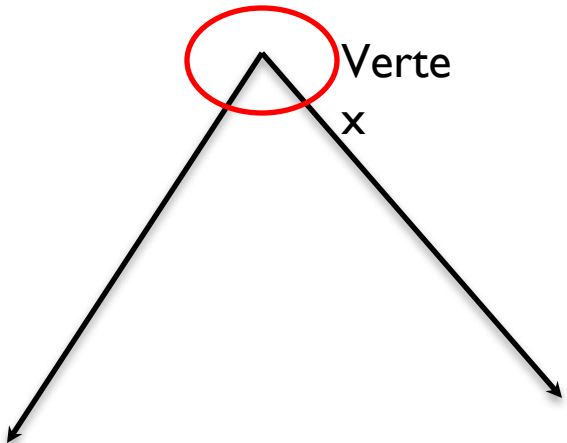
ANGLE:

✔ Two rays starting from a common point form an angle.

✔The two rays are called the arms of the angle.

✔ The common starting point is called vertex.

✔An angle is denoted by the symbol ∠



LET'S REVISE

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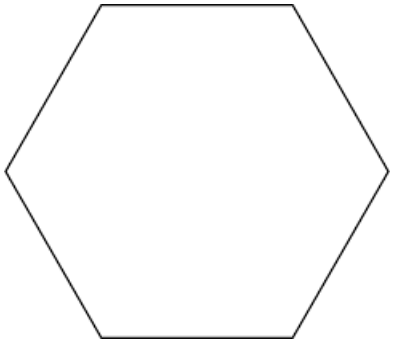
Count how many line segments are there ?



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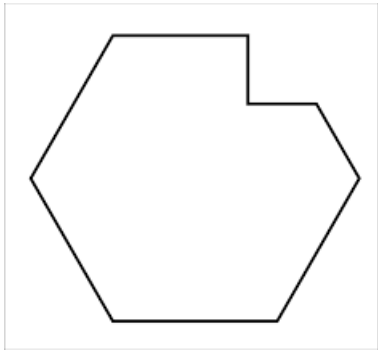
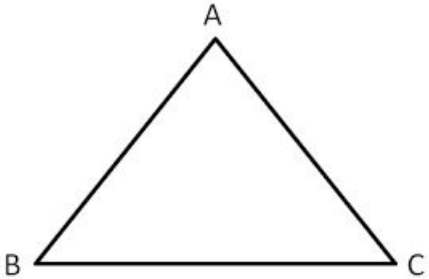


8



3

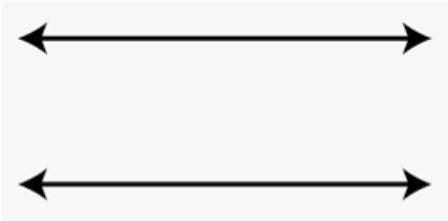
Identify the shapes

1. 

Point

2. 

Line segment

3. 

Line

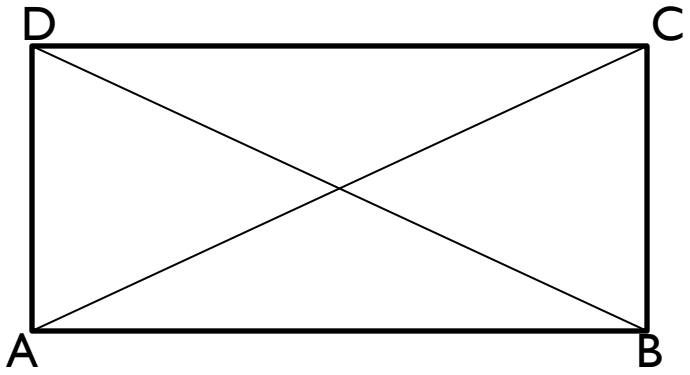
4. 

Ray

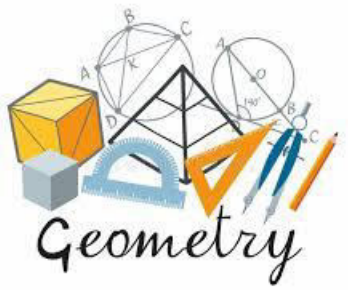
EXERCISE 15 A

1. Name the line segments in the following figures.

a.



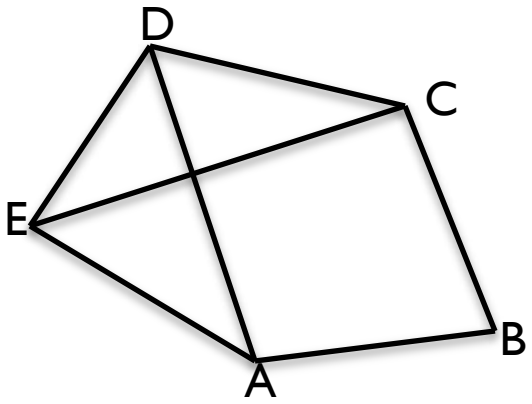
$\overline{AB}$, $\overline{BC}$, $\overline{CD}$, $\overline{AD}$, $\overline{AC}$, $\overline{BD}$



EXERCISE 15 A

1. Name the line segments in the following figures.

b.

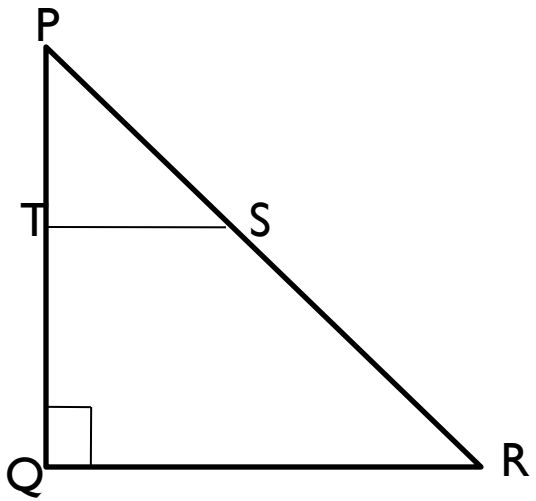


$\overline{AB}$, $\overline{BC}$, $\overline{CD}$, $\overline{AD}$, $\overline{DE}$, $\overline{AE}$, $\overline{CE}$

EXERCISE 15 A

1. Name the line segments in the following figures.

C.

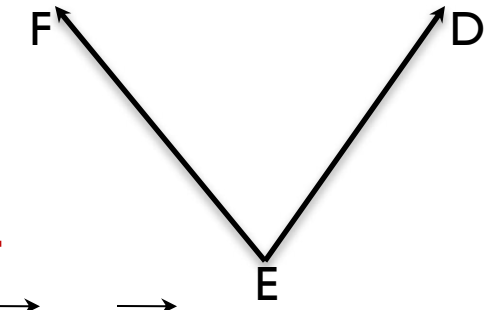


$\overline{PQ}$, $\overline{QR}$, $\overline{PR}$, $\overline{RS}$, $\overline{PS}$, $\overline{PT}$ $\overline{TQ}$, $\overline{TS}$

EXERCISE 15 A

2. For each of the following angles name the vertex and arm.

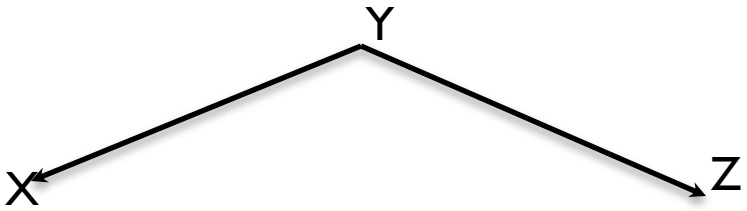
a.



Vertex - E

Arms – $\overrightarrow{DE}$, $\overrightarrow{EF}$

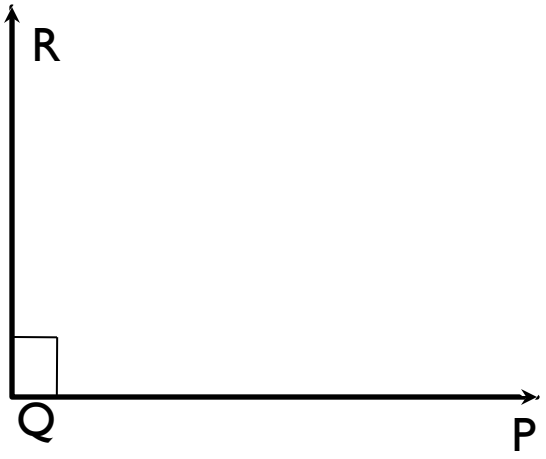
b.



Vertex - Y

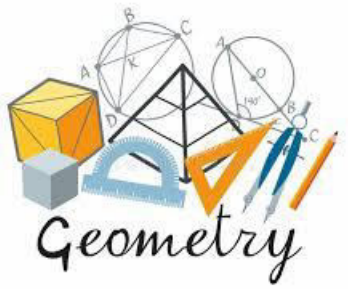
Arms – $\overrightarrow{XY}$, $\overrightarrow{YZ}$

c.



Vertex - Q

Arms – $\overrightarrow{PQ}$, $\overrightarrow{RQ}$



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Students are able:

To identify and define points, lines, rays , shapes, and angles.

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SESSION : 2

CLASS : V

SUBJECT : MATHEMATICS

CHAPTER NUMBER: 15

CHAPTER NAME : GEOMETRY

SUB-TOPIC : ANGLES , TYPES OF ANGLES AND MEASURING ANGLES.

EX-15 A Q. 3, 4 , 6 & 7 IN THE BOOK.

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Recap

ANGLE:

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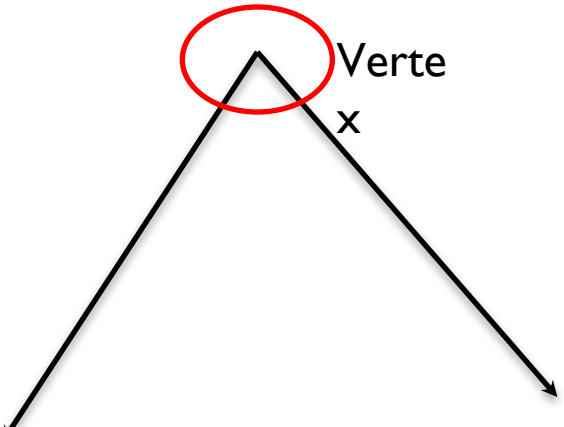

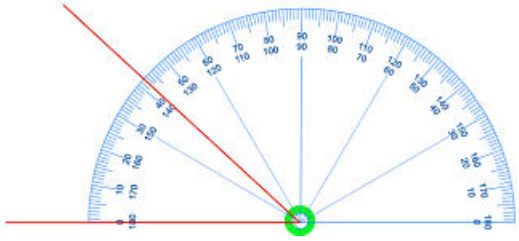

TYPES OF ANGLES:

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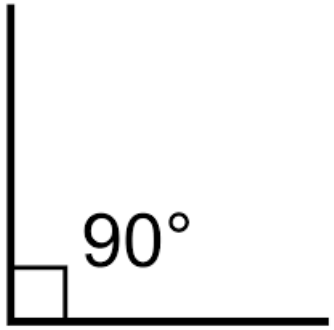
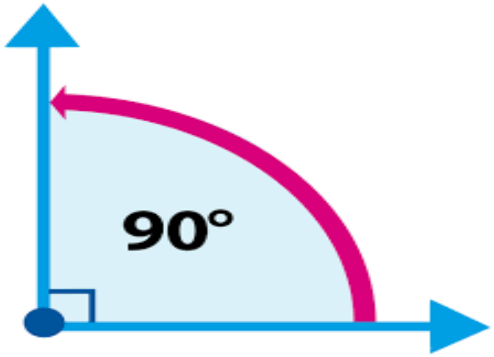
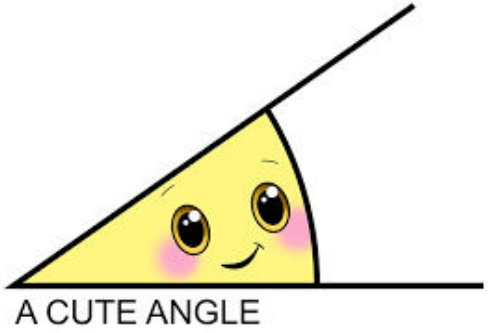
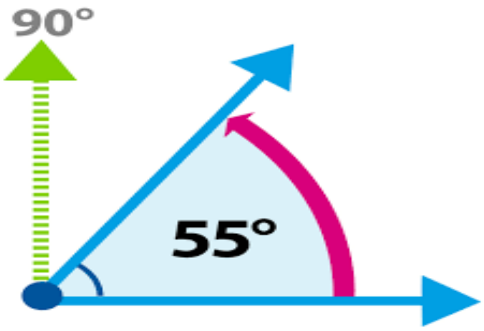
1. Right Angle- **Which is equal to 90°**

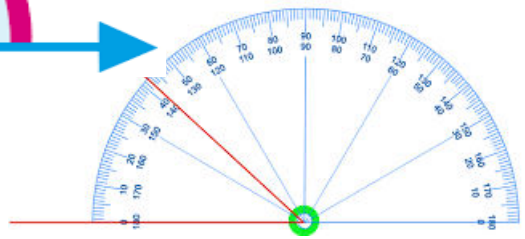




2. Acute Angle – **Which is less than 90°**







TYPES OF ANGLES:

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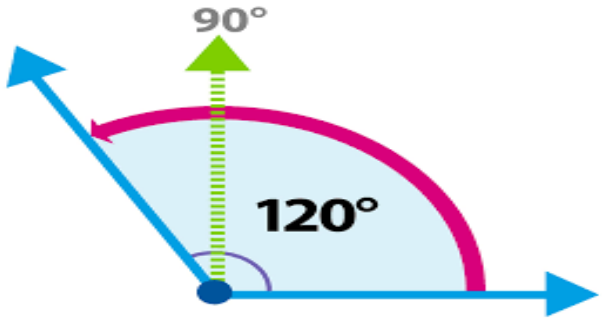
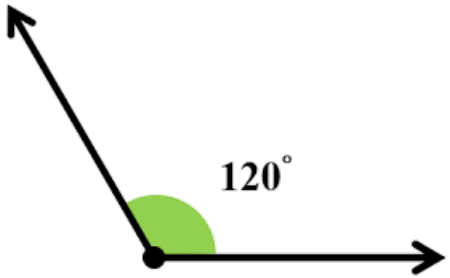
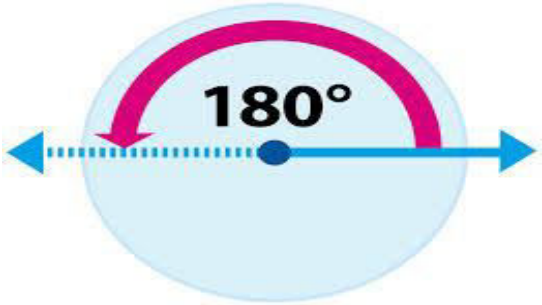
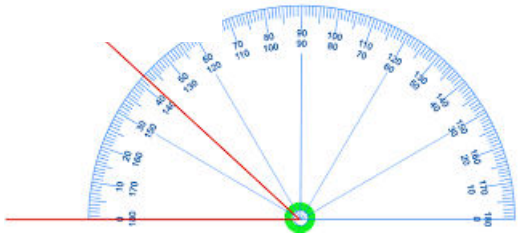
3. Obtuse Angle- **Which is more than 90°**

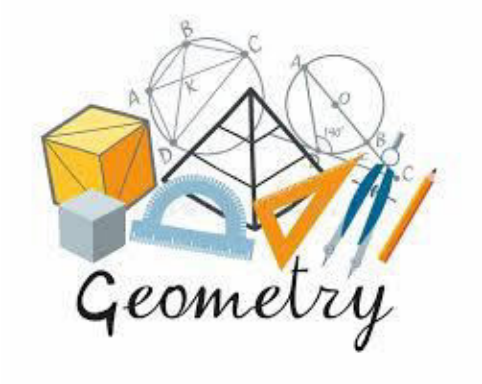




4. Straight Angle- **Which is equal to 180°**







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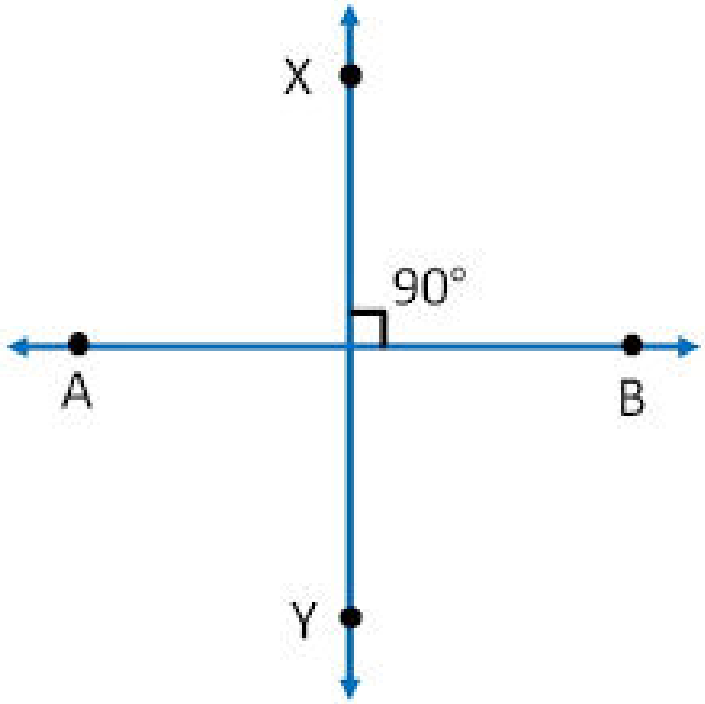
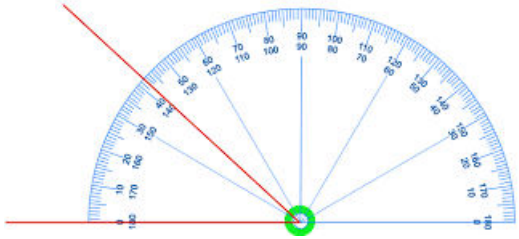
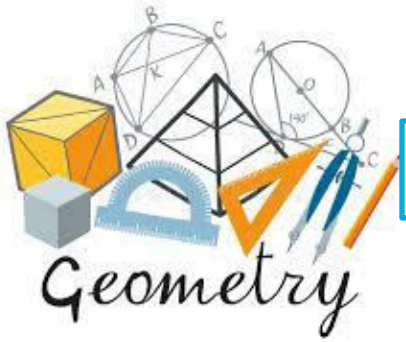
When two lines intersect each other at 90° , they are called perpendicular lines.







MEASUREMENT OF ANGLES.

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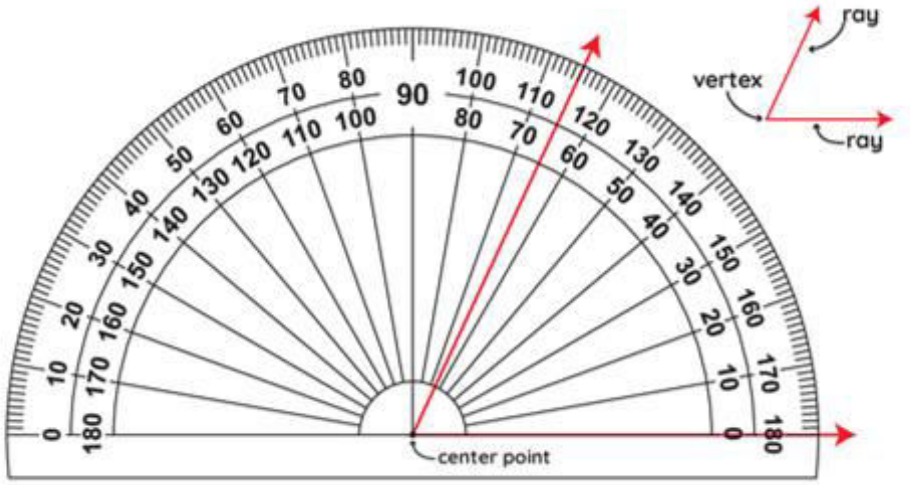
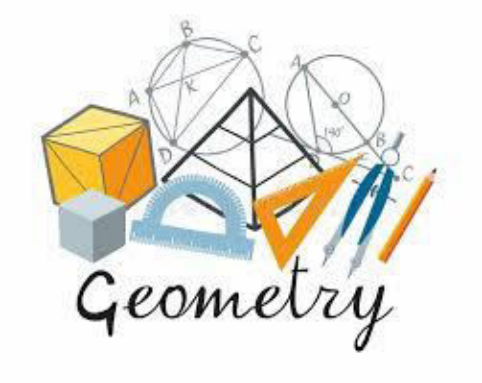
Measuring Angles



1. Place the 'center point' of the protractor directly on top of the vertex of the angle you want to measure.
2. Line up the zero line of the protractor with the baseline, or the bottom ray of the angle.
3. Follow the second ray of the angle up to the measurements on the protractor. Be careful! Protractors usually have two sets of numbers going in opposite directions.



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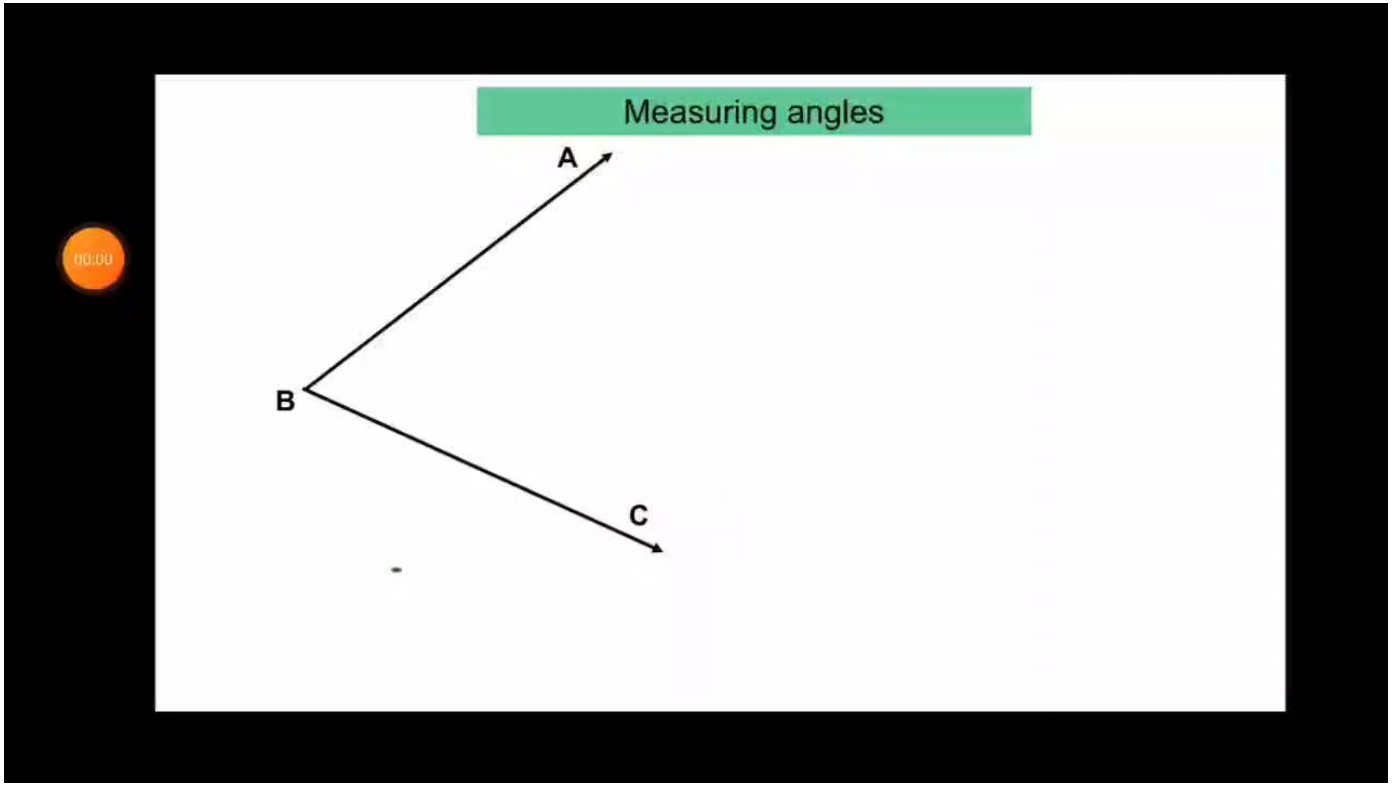

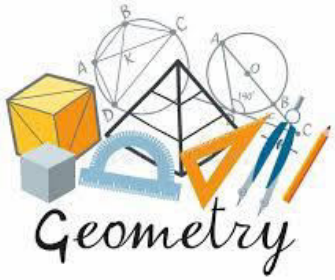

EXERCISE – 15 A

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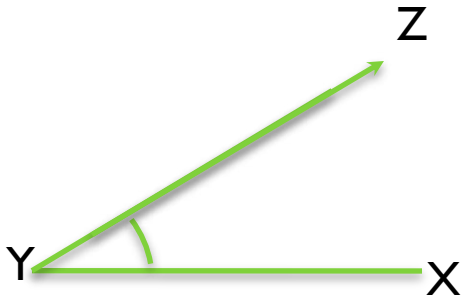
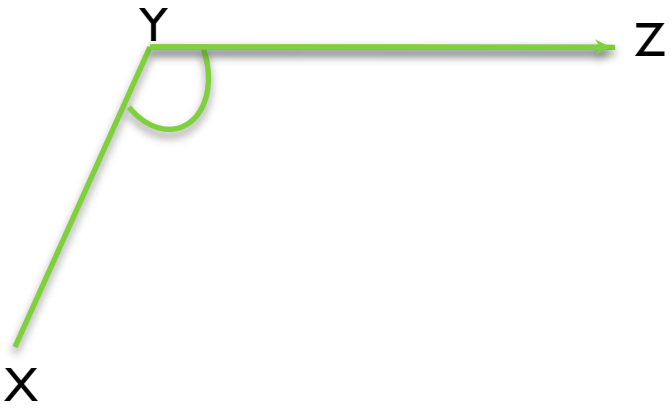
3. Write the names of the angles (acute,right, or obtuse) .

a.

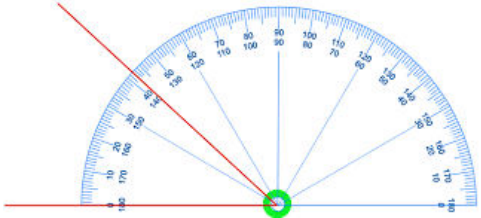


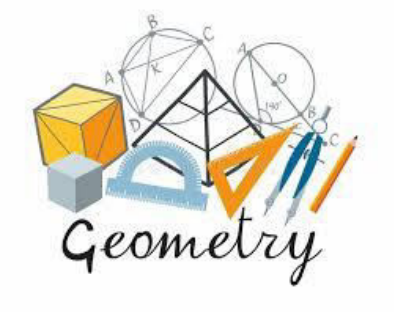
Acute Angle

b.



Obtuse Angle.





EXERCISE – 15 A

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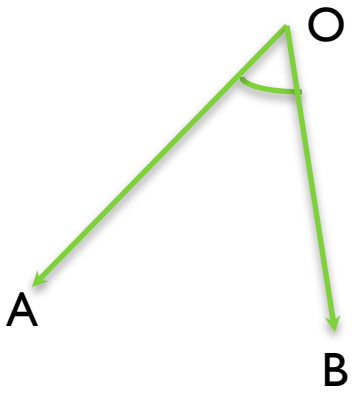
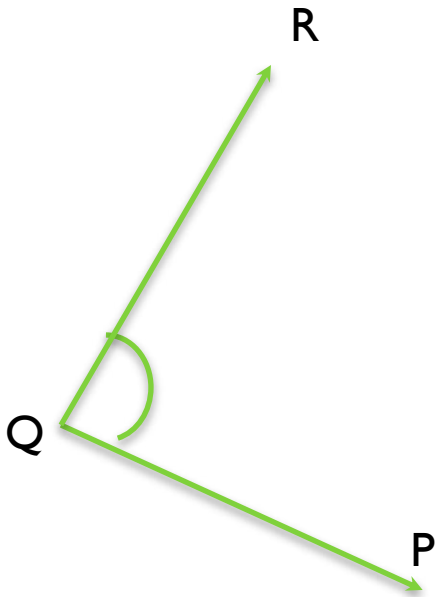
c.

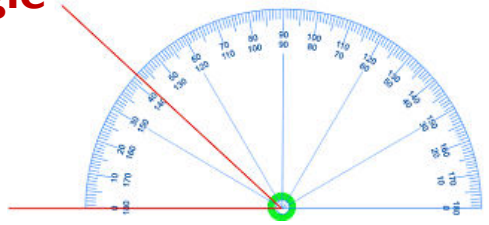


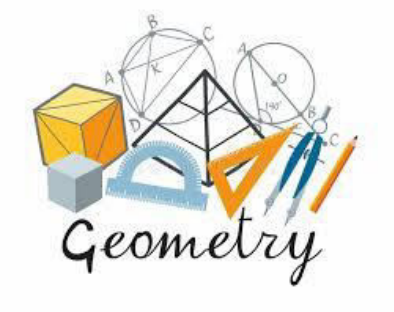
Acute Angle

d.



Right Angle





EXERCISE – 15 A

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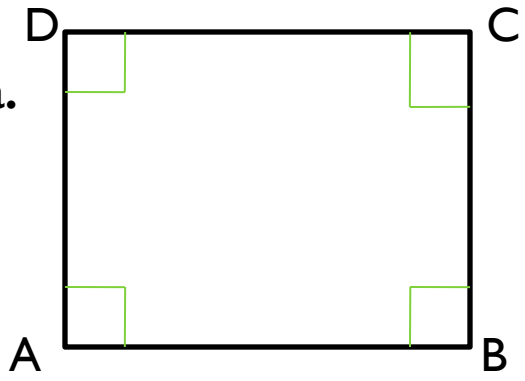
4. Find the lengths of the following line segments

a. 4.5 cm

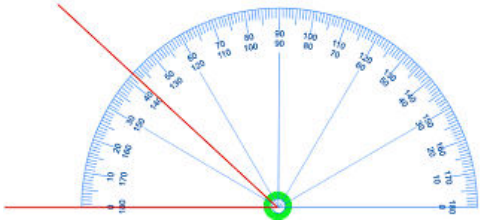
a. 1.8 cm

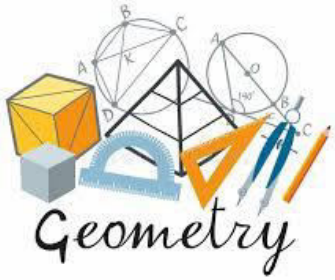
6. Measure the sides of the following .

a.



AB = BC = CD = AD = 2.7 CM





EXERCISE – 15 A

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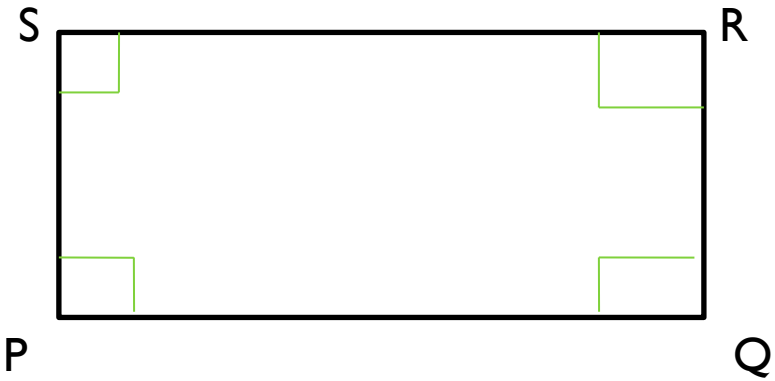
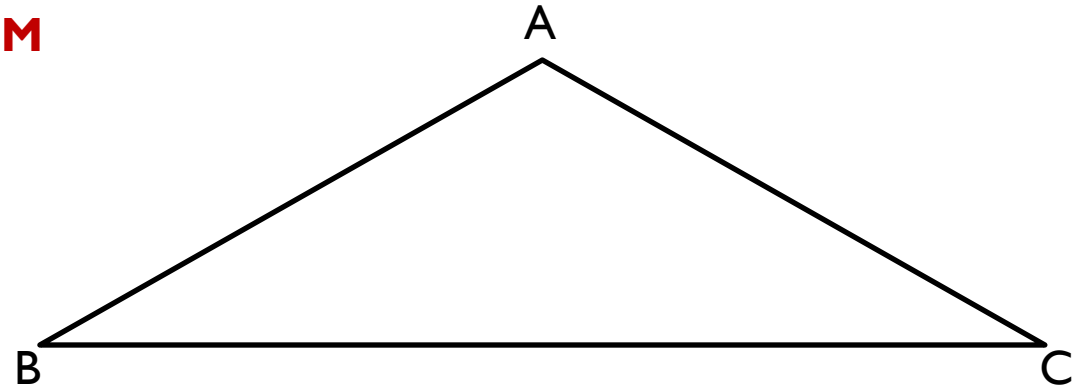
b.

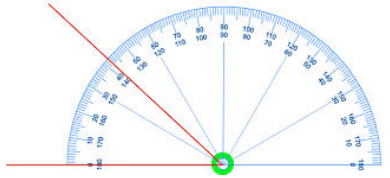


PS = QR = 2.7 CM
PQ= RS = 4.8 CM

c.



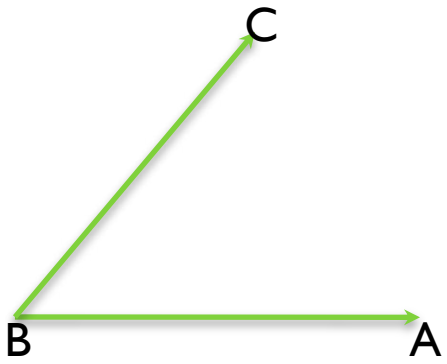
AB = AC = 3 CM
BC = 5.2 CM



EXERCISE – 15 A

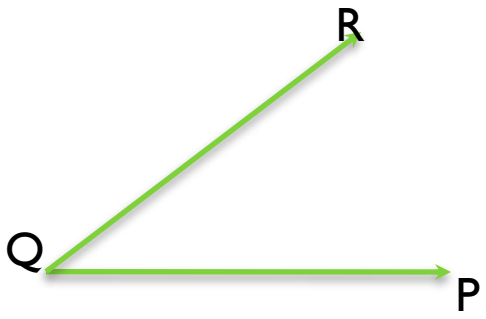
7. Measure the angles.

a.



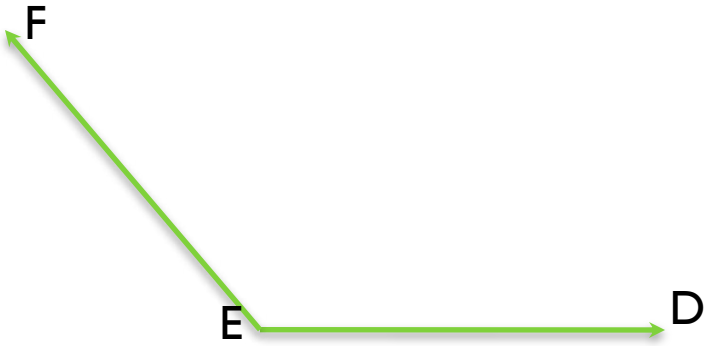
$\angle ABC = 68°$

b.

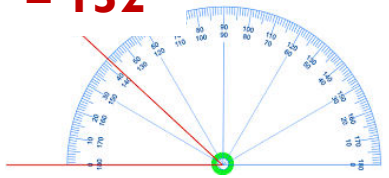


$\angle PQR = 49°$

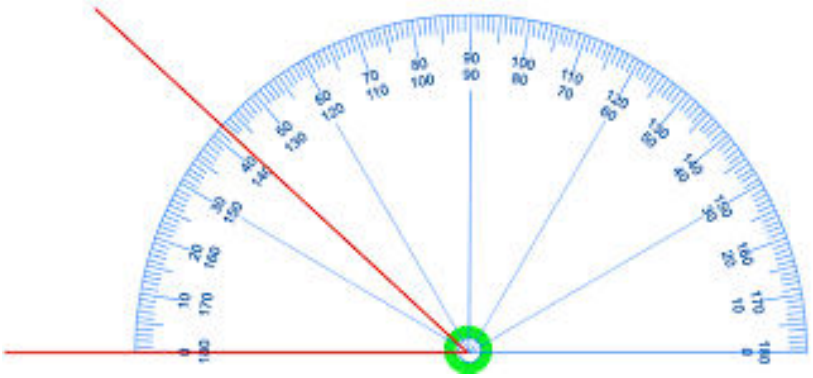
c.



$\angle DEF = 132°$



- **Complete Exercise 15 A Q.No. 5 and 8 in the notebook.**



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Students are able:

- ✔ To identify and define angles and types of angles.
- ✔ To measure angles and draw angles.

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SESSION : 3

CLASS : V

SUBJECT : MATHEMATICS

CHAPTER NUMBER: 15

CHAPTER NAME : GEOMETRY

SUB-TOPIC : TRIANGLES , TYPES OF TRIANGLES AND AREA OF TRIANGLES .

EX-15 B

Website: www.odmegroup.org
Email: info@odmps.org
Toll Free: 1800 120 2316
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

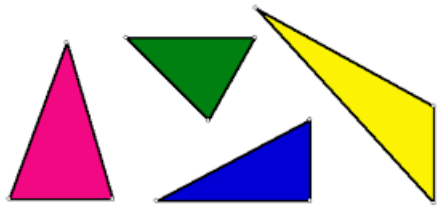
TRIANGLES

A closed shape having 3 sides is a triangle.

Types of triangles

According to sides

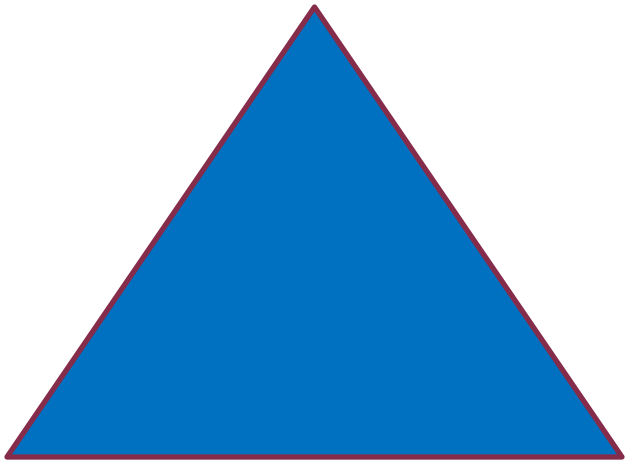
- Equilateral
- Isosceles
- Scalene



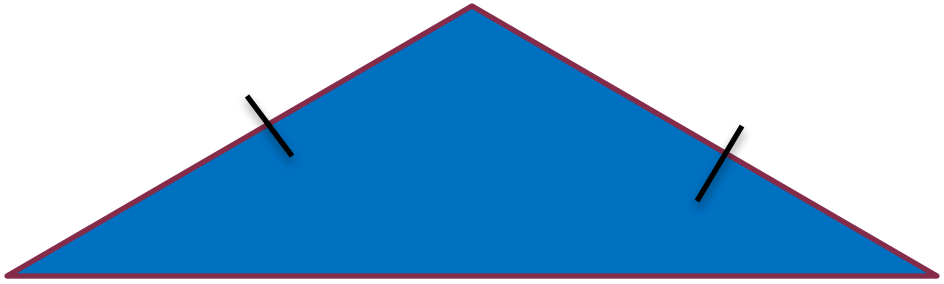
THESE SHAPES ARE TRIANGLES

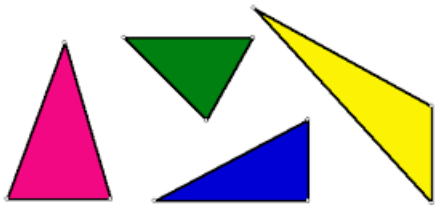
Types of triangles

Equilateral: A triangle whose all sides are equal.



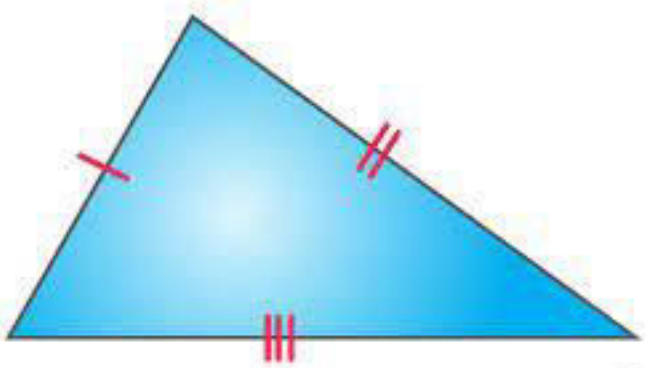
Isosceles: A triangle whose any 2 sides are equal.





THESE SHAPES ARE TRIANGLES

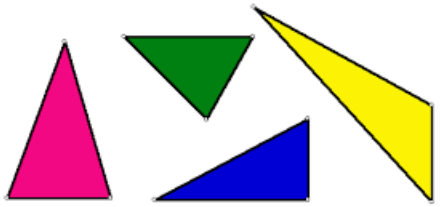
Scalene : a triangle whose non of the side are equal.



Types of triangles

According to angles

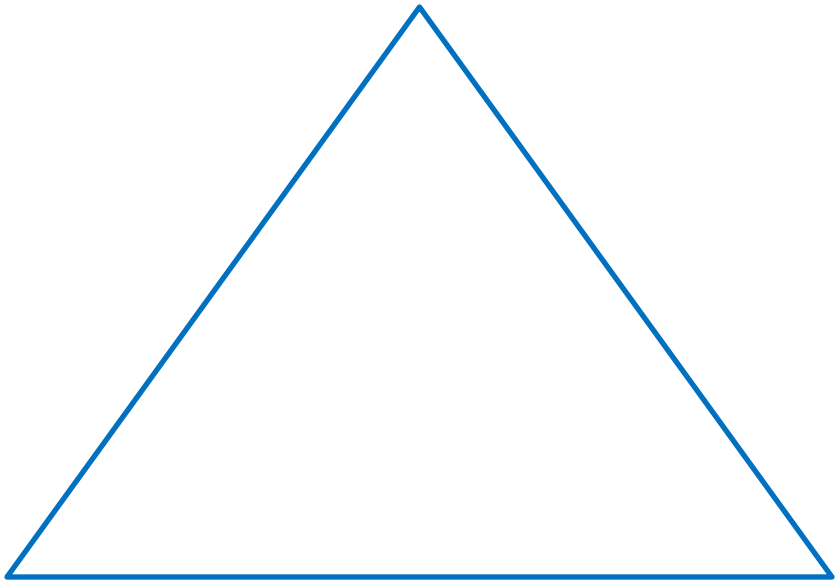
- Acute
- Obtuse
- Right

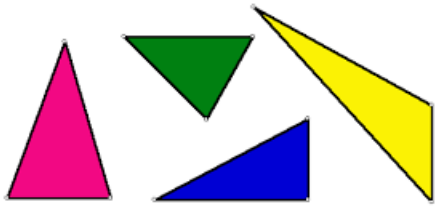


THESE SHAPES ARE TRIANGLES

Types of triangles

Acute : all angles are less than 90°

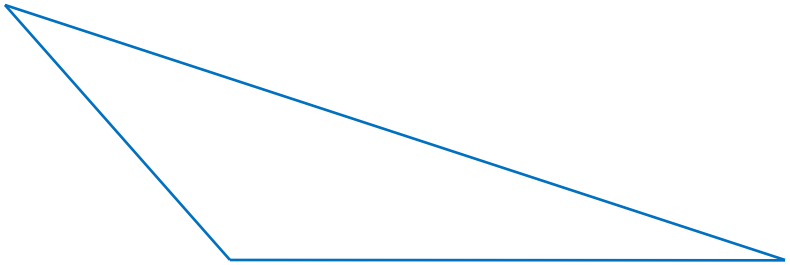




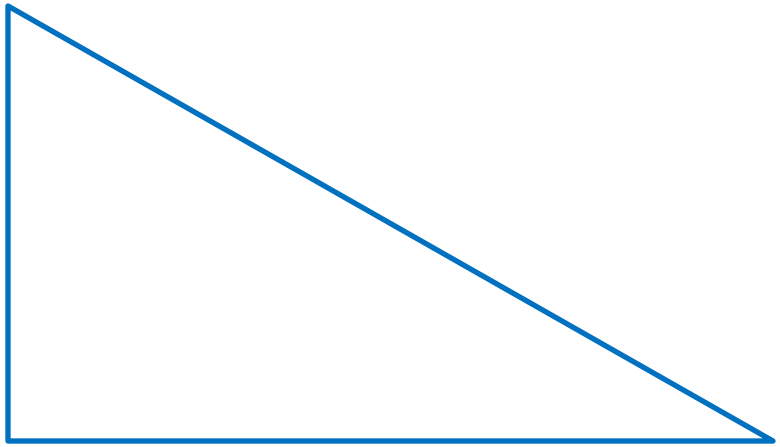
THESE SHAPES ARE TRIANGLES

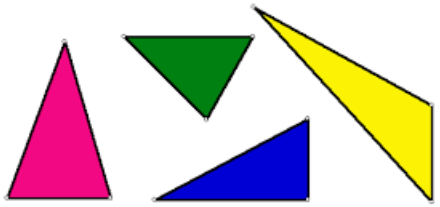
Types of triangles

Obtuse : one of the angles should be more than 90°.



Right: one of the angles should be equal to 90°.

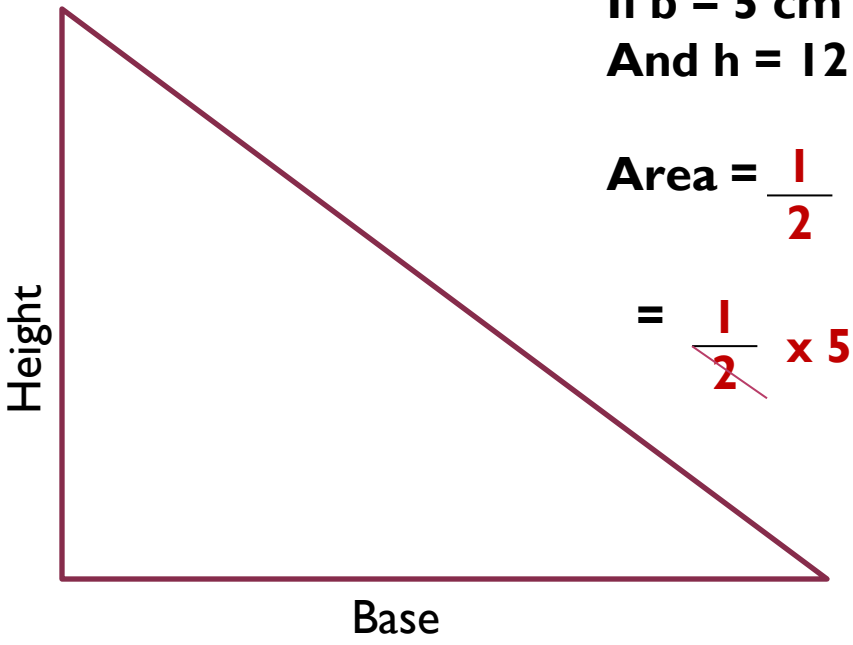




THESE SHAPES ARE TRIANGLES

Area of triangles

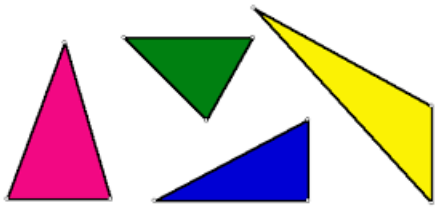
The area of triangle = $\frac{1}{2}$ x base x height



If b = 5 cm
And h = 12 cm

Area = $\frac{1}{2}$ x base x height

= $\frac{1}{2}$ x 5 x 12 = 30 sq.cm



THESE SHAPES ARE TRIANGLES

EXERCISE- 15B

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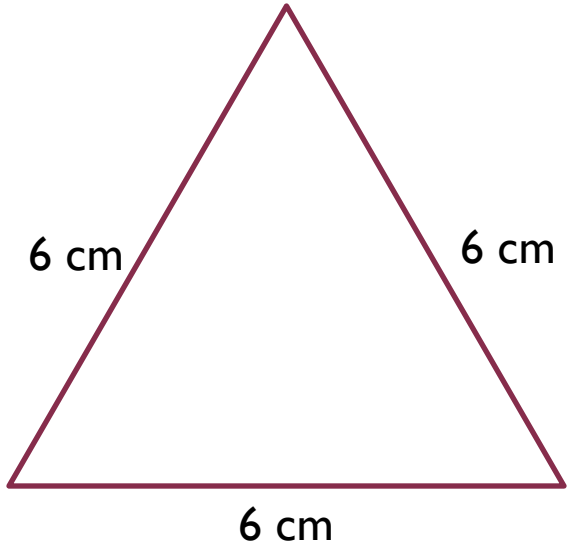
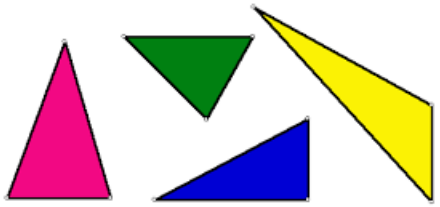
1. Classify the following triangles.

a.



Equilateral triangles



THESE SHAPES ARE TRIANGLES

EXERCISE- 15B

ODM EDUCATIONAL GROUP
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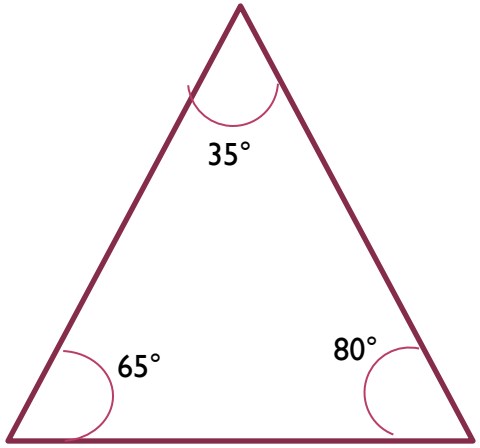
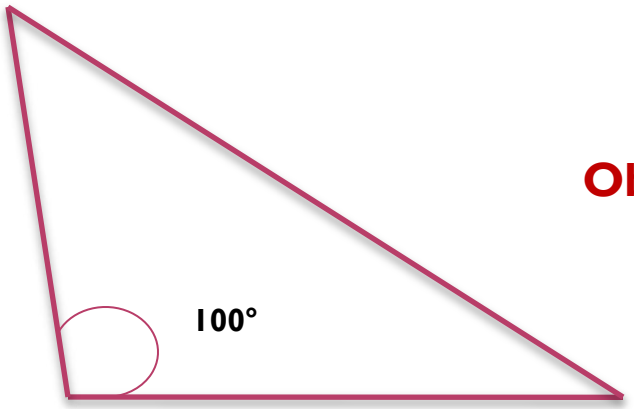
b.

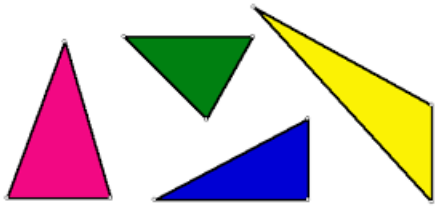


Acute triangle

c.



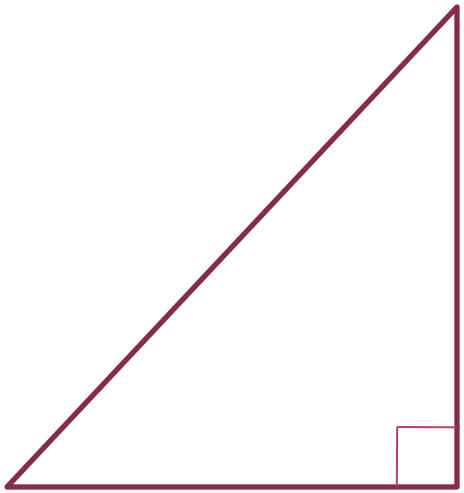
Obtuse triangle



THESE SHAPES ARE TRIANGLES

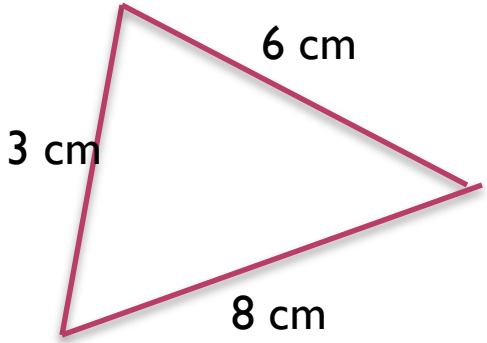
EXERCISE- 15B

d.

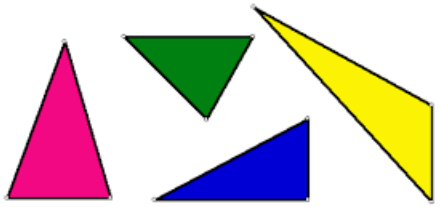


Right triangle

e.



Scalene triangle.



THESE SHAPES ARE TRIANGLES

EXERCISE- 15B

ODM EDUCATIONAL GROUP
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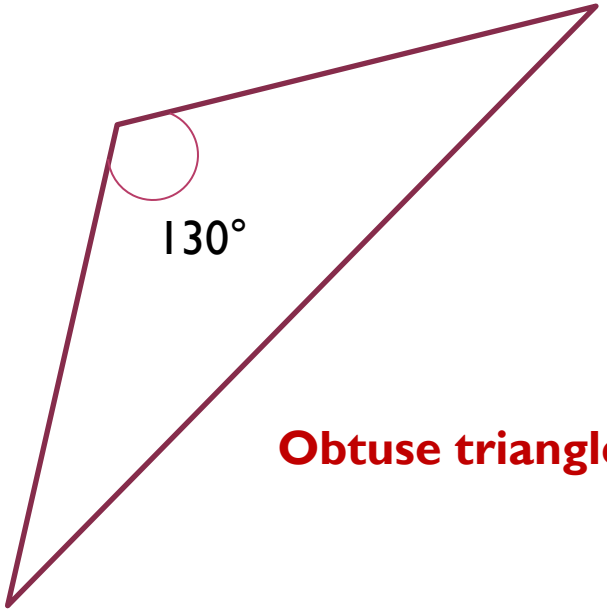
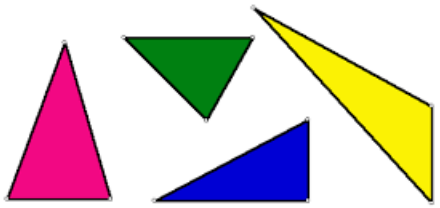
f.



Obtuse triangle



THESE SHAPES ARE TRIANGLES

EXERCISE- 15B

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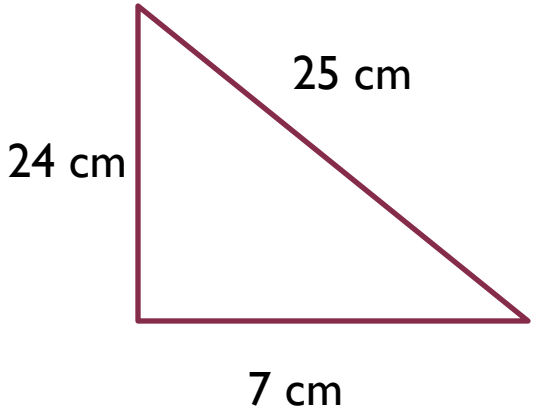
2. Find the area.

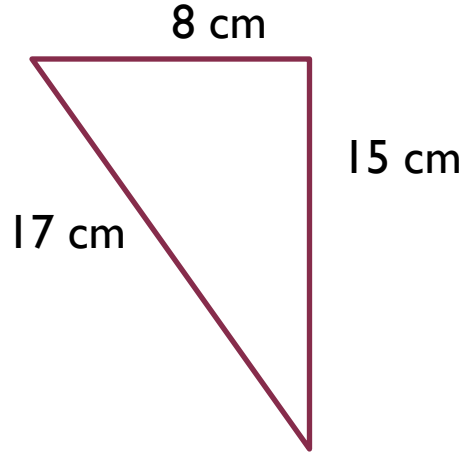
a. Area = $\frac{1}{2}$ x base x height

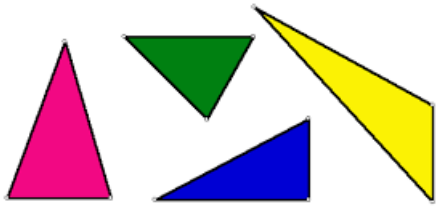
= $\frac{1}{2}$ X 7 x 24 = 84 sq.cm



b. Area = $\frac{1}{2}$ x base x height

= $\frac{1}{2}$ X 8 x 15 = 60 sq.cm





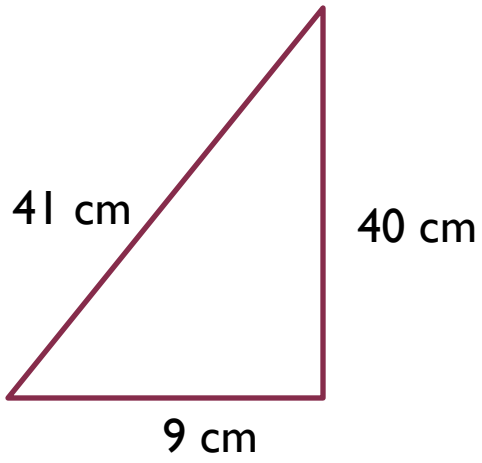
THESE SHAPES ARE TRIANGLES

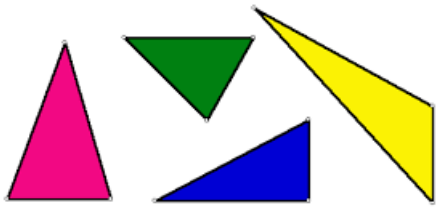
EXERCISE- 15B

ODM EDUCATIONAL GROUP
Changing your Tomorrow

c. Area = $\frac{1}{2}$ x base x height

= $\frac{1}{\cancel{2}}$ X 9 x $\cancel{40}^{20}$ = 180 sq.cm





THESE SHAPES ARE TRIANGLES

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Students are able:

- To identify triangles , types of triangles
- To find the area of the triangles .

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SESSION : 4

CLASS : V

SUBJECT : MATHEMATICS

CHAPTER NUMBER: 15

CHAPTER NAME : GEOMETRY

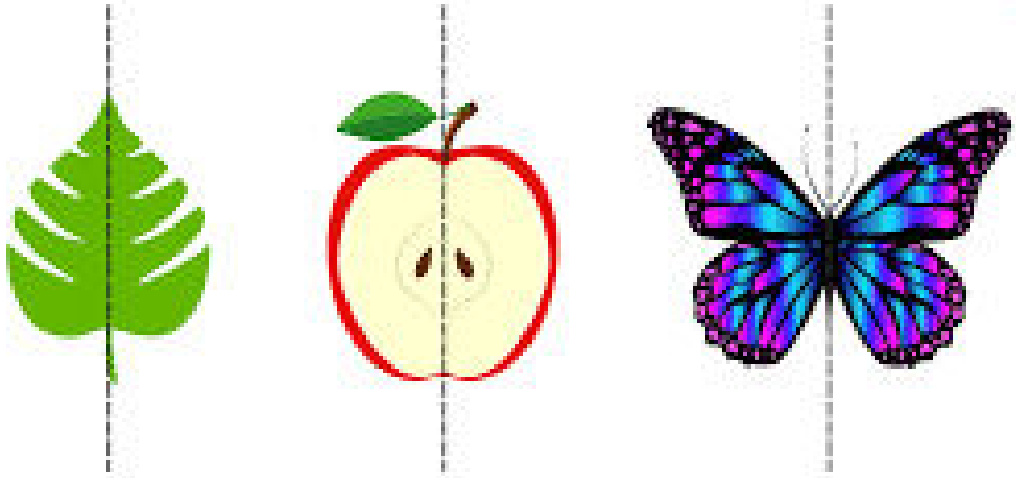
SUB-TOPIC : SYMMETRY AND TWO LINES OF SYMMETRY

EX-15 C AND D

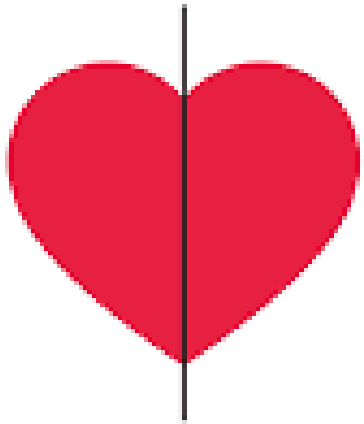
Website: www.odmegroup.org
Email: info@odmps.org
Toll Free: 1800 120 2316
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

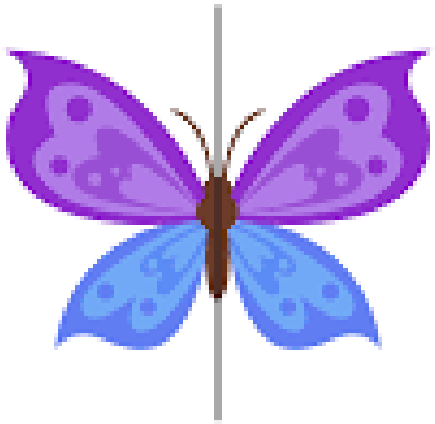
SYMMETRY

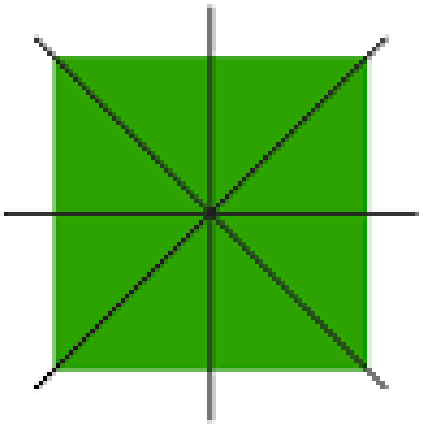
When a given figure is divided by a line and we get two figures that are exactly same shape and size, we say that they are symmetry.



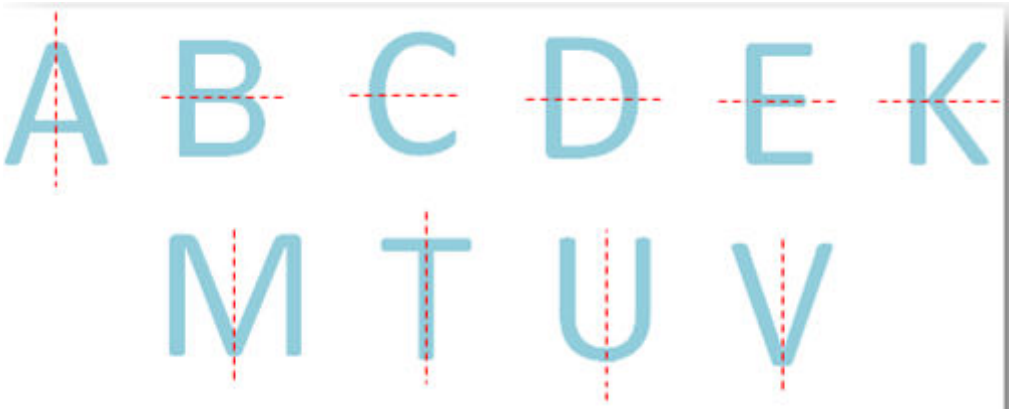
SYMMETRY



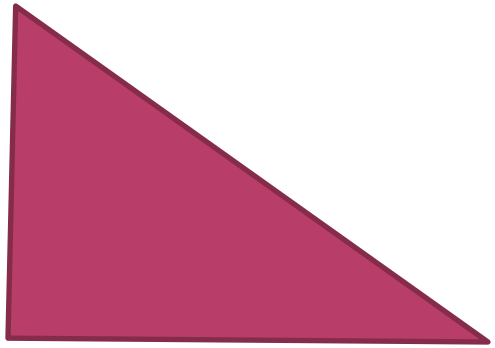




We can use more than one line of symmetry to divide the given figure equally.



Some figures and letters do not show symmetry.



G

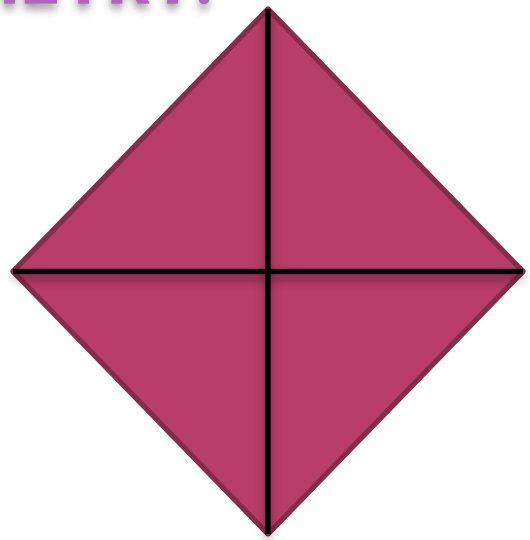
J

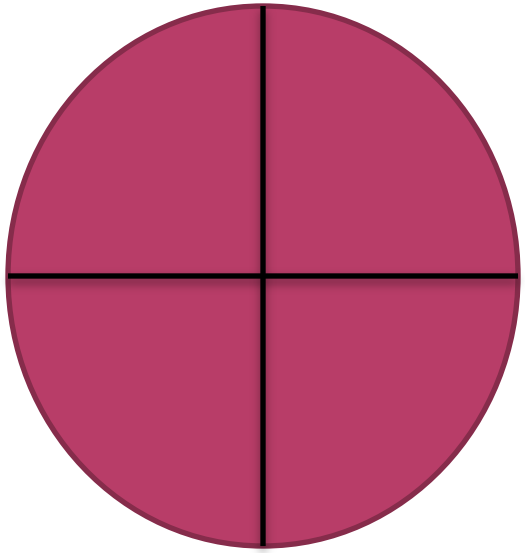
L

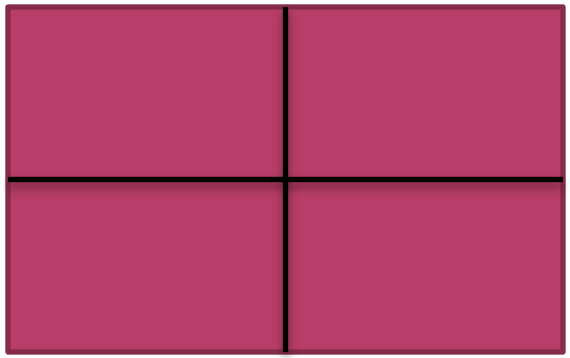
F

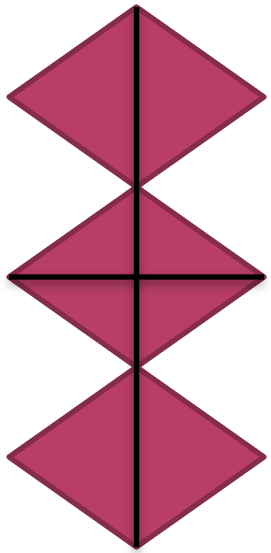
TWO LINES OF SYMMETRY.

We can use two or more lines of symmetry to create symmetrical figures.









EXERCISE 15 C

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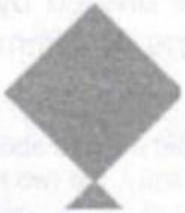
1 Identify and tell which of the following are symmetrical.

(a) 

Symmetrical

(b) 

(c) 

Symmetrical

(d) 

(e) 

Symmetrical

(f) 

Symmetrical

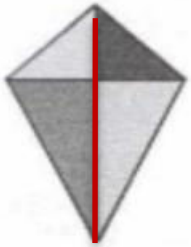
(g) 

(h) 

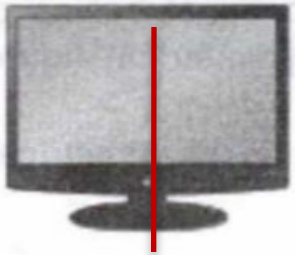
EXERCISE 15 C

ODM EDUCATIONAL GROUP
Changing your Tomorrow

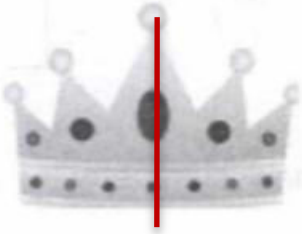
2 Draw a line of symmetry in the following, wherever possible.

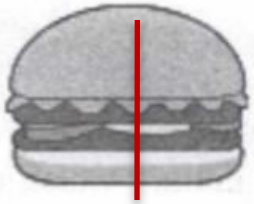
(a) 

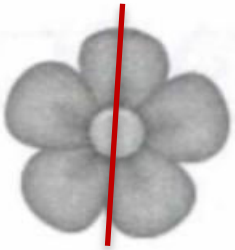
(b) 

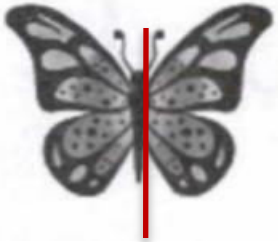
(c) 

(d) 

(e) 

(f) 

(g) 

(h) 

EXERCISE 15 C

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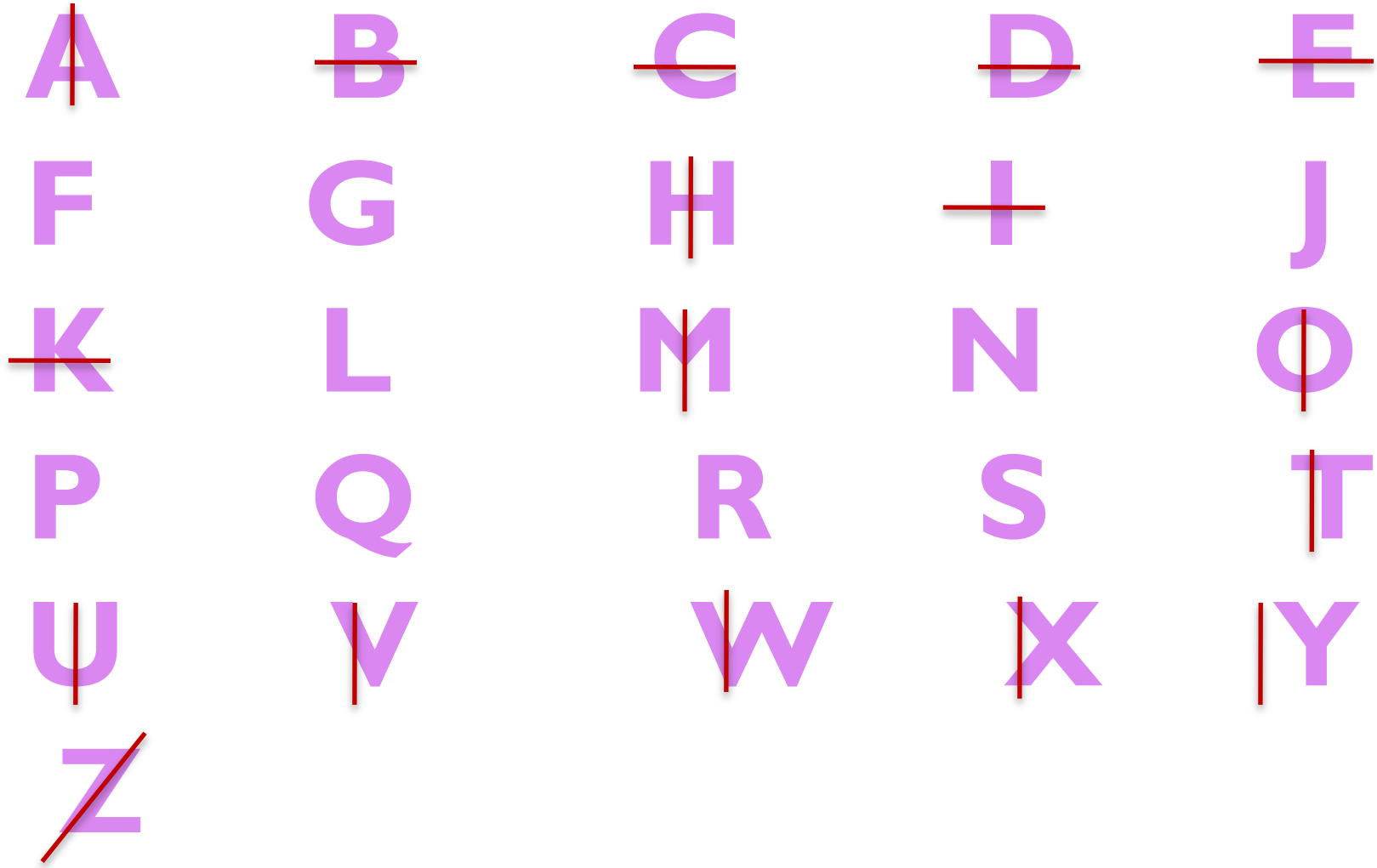
3. Draw a line of symmetry in letters between A to Z , wherever possible.



EXERCISE 15 D

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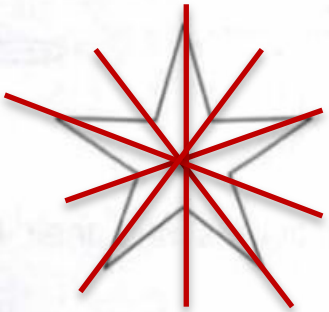
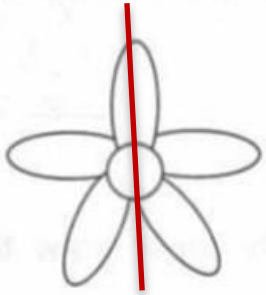
1 Draw all possible lines of symmetry in each of the following.

(a)

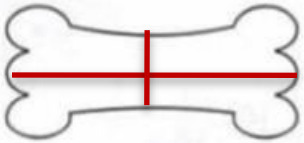


(b)

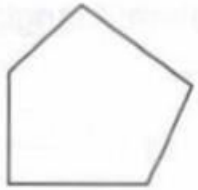


(c)

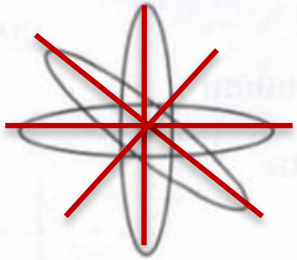
(d)



(e)



(f)



(g)

(h)

EXERCISE 15 D

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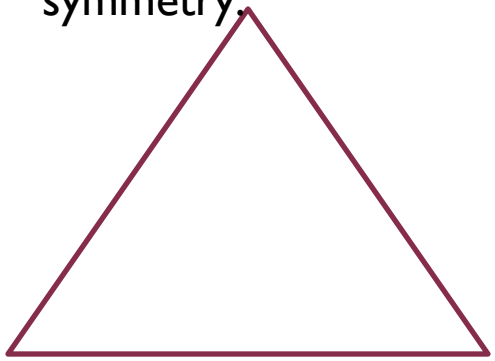
a.

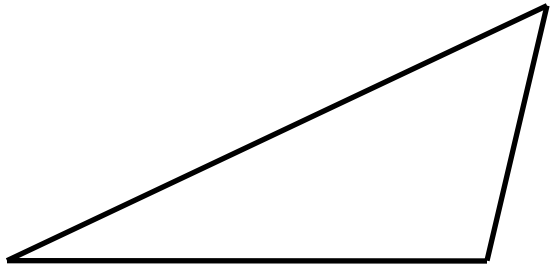
Two lines of symmetry.

b.



Three lines of symmetry.

c.



No line of symmetry.

d.

One line of symmetry.

EXERCISE 15 D

ODM EDUCATIONAL GROUP
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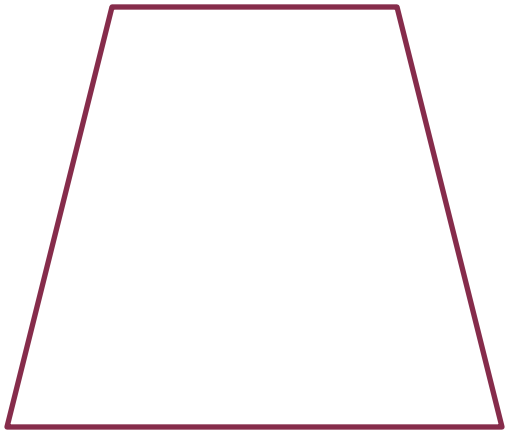
d.

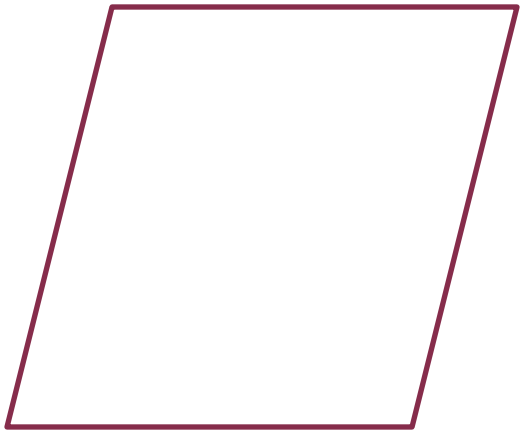


0 line of symmetry.

f.

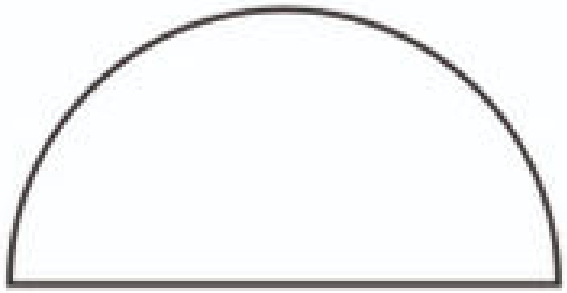
four lines of symmetry.

g.



No line of symmetry.

h.



One line of symmetry

EXERCISE 15 D

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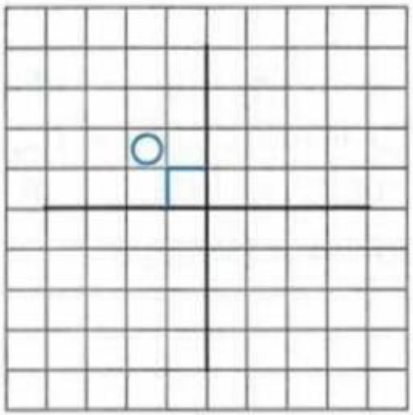
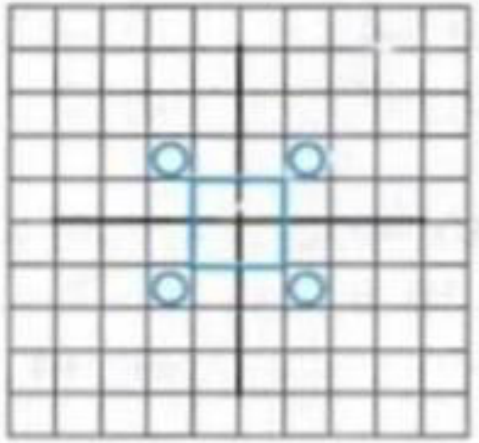
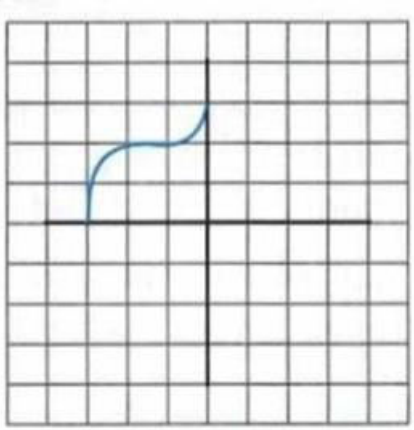
3. Complete the following figure using graph paper.

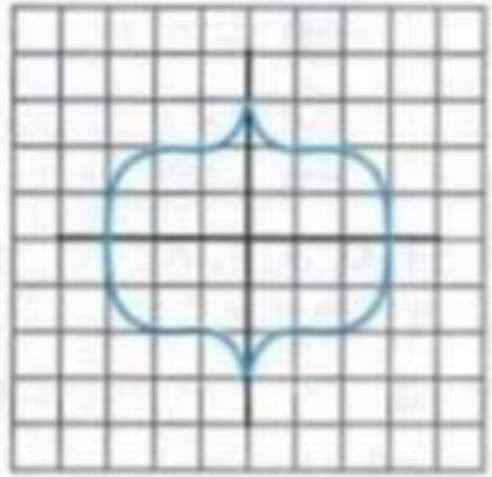
a.





b.





EXERCISE 15 D

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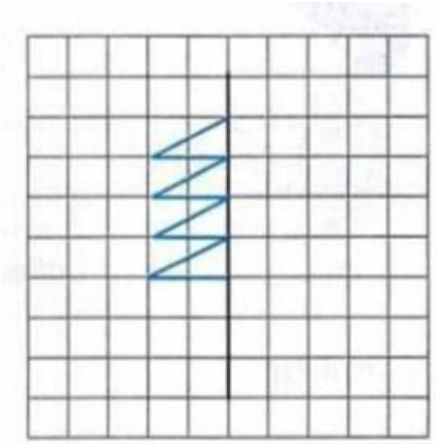
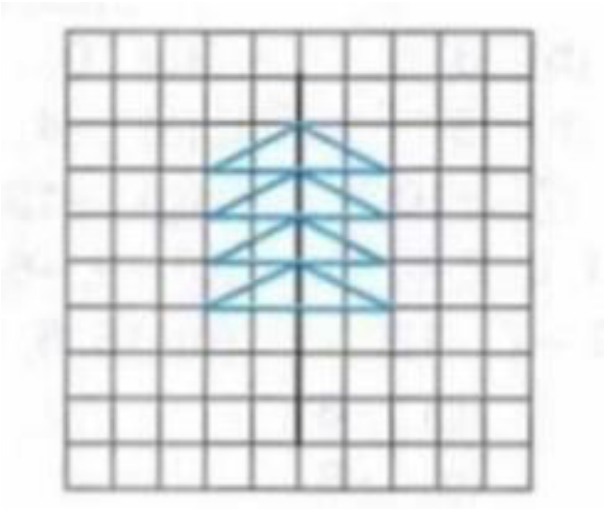
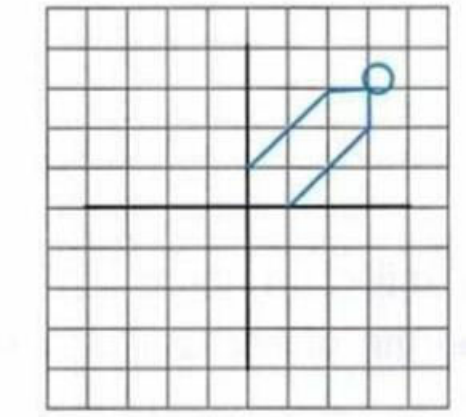
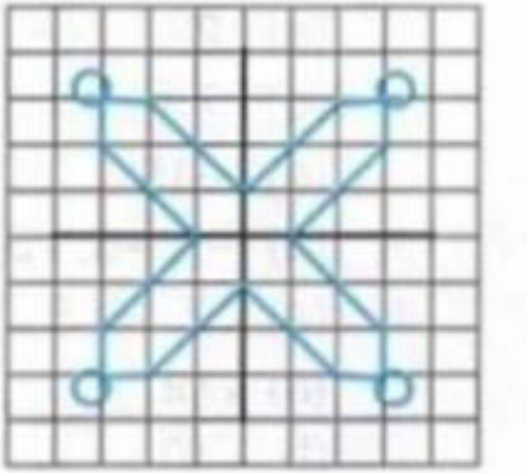
c.





d.





Complete Exercise – 15 D.

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Students are able:

- To understand the meaning of symmetry.
- To draw the lines of symmetry.
- To draw mirror image.

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THANKING YOU

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