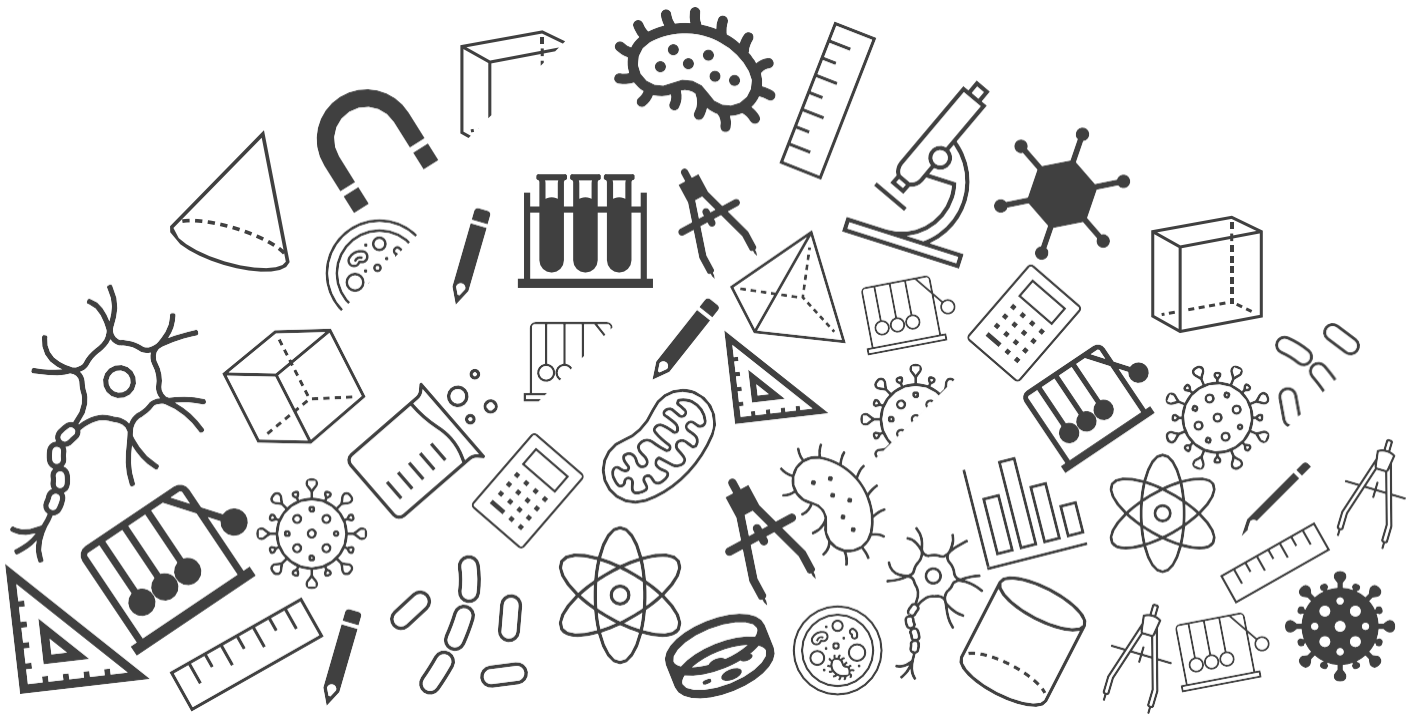
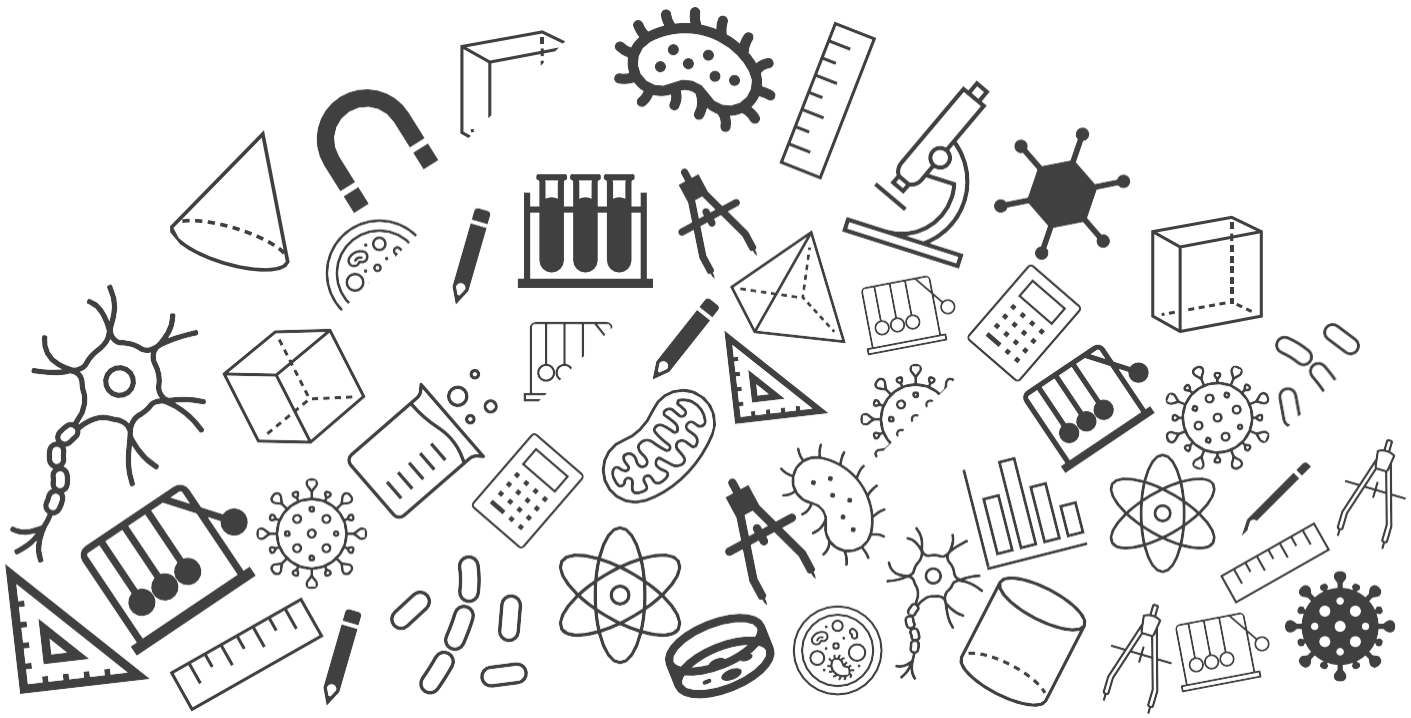
Grade 06: Maths
Exam Important Questions

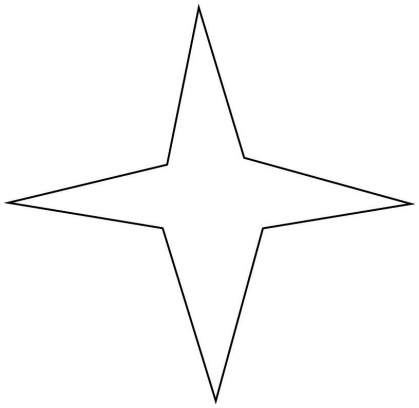


Basic Geometrical Ideas



Basic Geometrical Ideas

1. Consider the given figure and answer the question:



Is it a curve?
[1 mark]

Closed curves are the shapes that are closed by line-segments or by a curved line.

e.g. A circle is an example of such a closed curve.

The shape which is not closed by line-segments or a curve is called an open curve, e.g. figure 1.

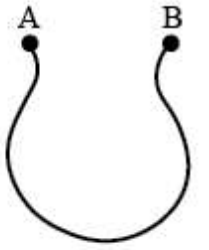


Fig 1


Fig 2

Figure 2 doesn't have endpoints and it completely encloses an area.

Hence, it is a curve.

[1 mark]

Basic Geometrical Ideas

2. Name all the possible line segments, rays, and lines.

[3 marks]

In the given figure, line segments are $\overline{AB}$, $\overline{AC}$, $\overline{AD}$, $\overline{BC}$, $\overline{BD}$, $\overline{CD}$.
[1 mark]

In the given figure, rays are $\overrightarrow{AD}$, $\overrightarrow{BD}$, $\overrightarrow{CD}$, $\overrightarrow{DA}$, $\overrightarrow{CA}$, $\overrightarrow{BA}$
[1 mark]

In the given figure, line is $\overleftrightarrow{AD}$.

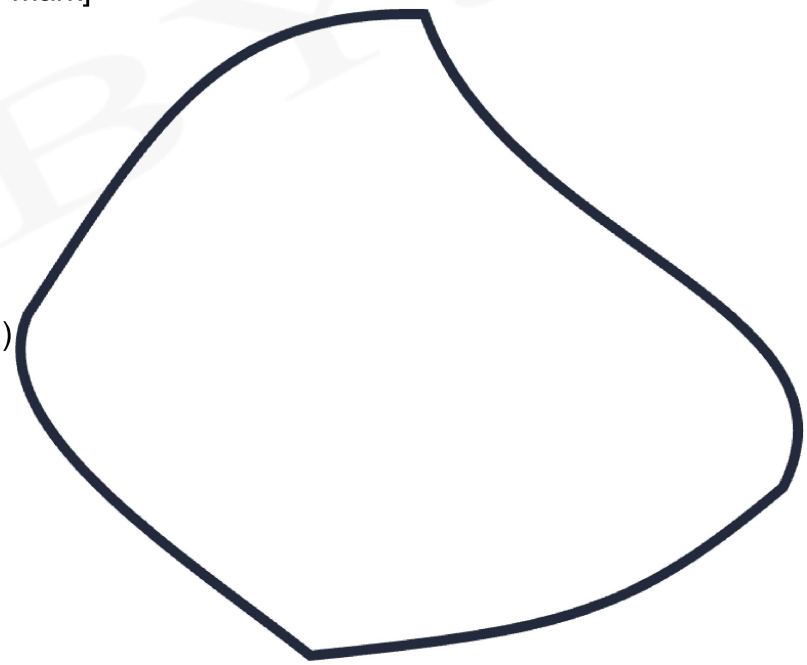
This line $\overleftrightarrow{AD}$ can be named in different ways, namely $\overleftrightarrow{AB}$, $\overleftrightarrow{AC}$, $\overleftrightarrow{AD}$, $\overleftrightarrow{BC}$, $\overleftrightarrow{BD}$, $\overleftrightarrow{CD}$.
[1 mark]

3. Draw rough diagrams to illustrate the following:
(i) Open Curve
(ii) Closed Curve
[2 marks]

(i) Open curve

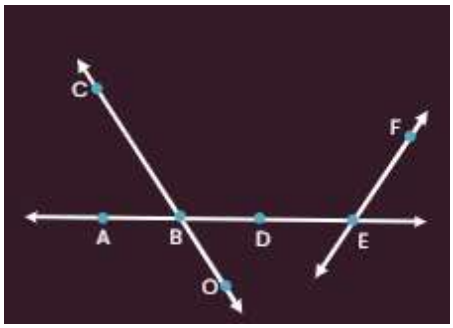
[1 mark]

(ii)



[1 mark]

4. Use the figure to name:



(1) Lines containing point E

(2) Line passing through A

(3) Two pairs of intersecting lines

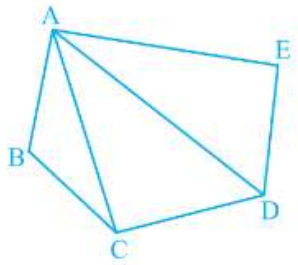
[3 marks]

(1) Lines containing point E = AE and FE.
[1 mark]

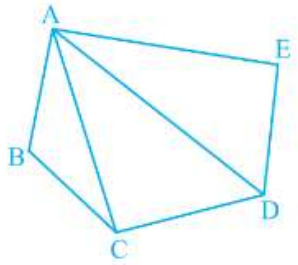
(2) Line passing through A = AE.
[1 mark]

(3) Two pairs of intersecting lines = AE and CO and FE and AE.
[1 mark]

5. Name the vertices and the line segments in the given figure.



[4 marks]

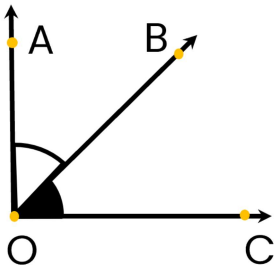


There are five vertices in the given figure, namely A, B, C, D, and E.
[2 marks]

There are seven line segments in the given figure, namely $\overline{AB}$, $\overline{BC}$, $\overline{CD}$, $\overline{DE}$, $\overline{EA}$, $\overline{AC}$, and $\overline{AD}$.
[2 marks]

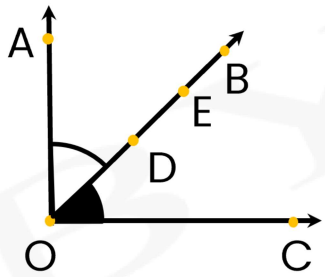
6. Draw rough diagrams of two angles such that they have:
(i) Two points in common.
(ii) Four points in common.
[2 marks]

(i) Two points in common.
∠AOB and ∠BOC have points O and B in common.



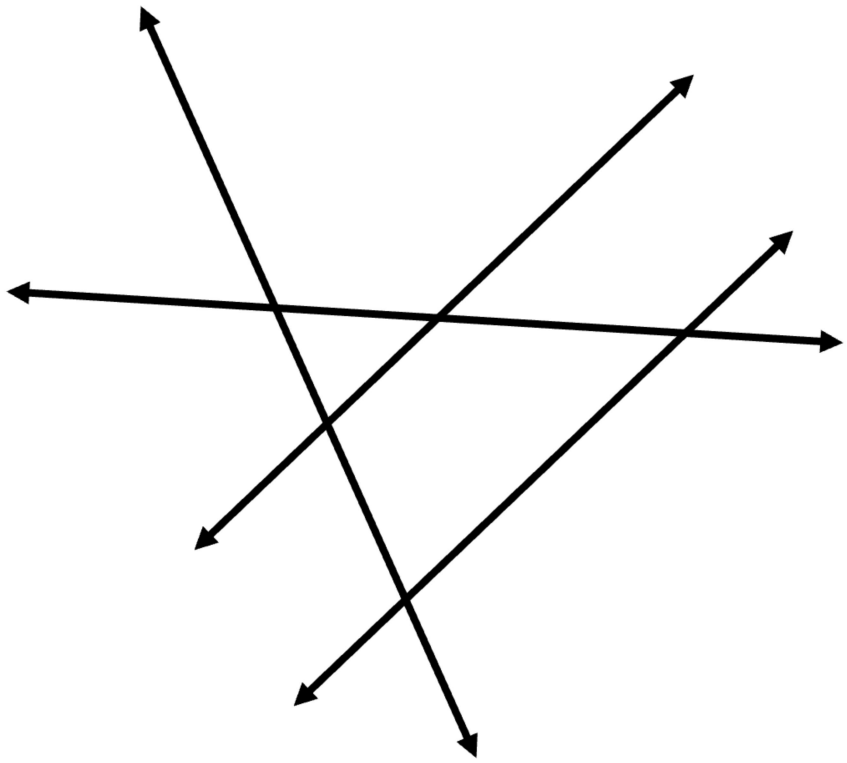
[1 mark]

(ii) Four points in common.∠AOB and ∠BOC have points O, D, E, and B in common.

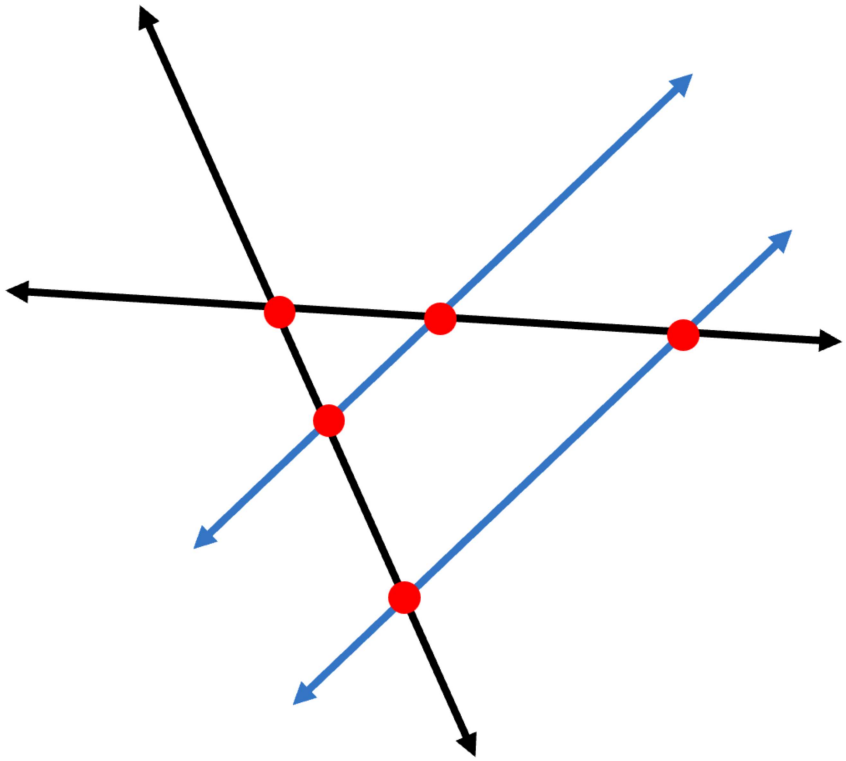


[1 mark]

7. The total number of pairs of parallel and intersecting lines in the given figure is _____.

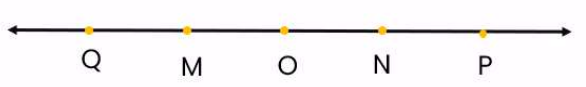


[2 marks]



For each pair of intersecting lines, there is one point of intersection.
There are five points of intersections in the given figure, so five pairs of intersecting lines.
There is one pair of parallel lines, since they don't intersect and are equidistant.
Hence, the required number is $5 + 1 = 6$.
[2 marks]

8. Consider the following figure. State whether the given statements are true or false.



(i) Q, M, O, N, P are points on the line MN.

(ii) Ray OP is different from ray QP.

(iii) Ray OM is not opposite to ray OP.

(iv) O is not the initial point of line OP.

[4 marks]

(i) In the above figure, there are five points Q, M, O, N, P on the line.
Hence, the given statement is true.
[1 mark]

(ii) Ray OP has O as its starting point and ray QP has Q as its starting point.
Hence, the statement that ray OP is different from ray QP is true.
[1 mark]

(iii) Ray OM and ray OP both have the same starting point O but both rays are extending in the opposite directions.
Hence, the given statement that ray OM is not opposite to ray OP is false.
[1 mark]

(iv) A line extends in both the directions endlessly. So, it has no initial point.
Hence, the given statement that O is not the initial point of line OP is true.
[1 mark]