



MATHS

BOOKS - NCERT EXEMPLAR

GEOMETRY

Solved Examples

1. The number of diagonals of a pentagon is

B.4

C. 5

D. 10

Answer: C

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2. The number of diagonals of a triangle is

A. 0

B. 1

C. 2

D. 3

Answer: A



3. In Fig. 2.1 $PQ \perp AB$ and PO = OQ. Is PQ

the perpendicular bisector of line segment AB

? Why or why not ?



4. In Fig. 2.2, if $AC \perp BD$, then name all the

right angles.



5. Is ABCD of Fig. 2.3 a polygon ? If yes what is

the special name for it ?



angle formed by the hands of a clock at 7 o'clock?



Solved Examples In Examples 3 And 4 Fill In The Blanks To Make The Statements True

1. A polygon of six sides is called a ____

A. octagon

B. heptagon

C. pentagon

D. hexagon

Answer: D



Solved Examples In Examples 5 To 7 State Whether The Statements Are True Or False



3. Angle of 0° is an acute angle.

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Exercise Out Of Foure Options Only One Is Correct Write The Correct Answer

1. Number of lines passing through five points such that no three of them are colinear is

A. 10

B. 5

C. 20

D. 8



2. The number of diagonals in a septagon is

A. 21

B.42

C. 7

D. 14





- **4.** Measures of the two angles between hour and minute hands of a clock at 9 O' clock are
 - A. $60^\circ,\,300^\circ$
 - B. 270° , 90°
 - C. $75^\circ, 285^\circ$
 - D. 30° , 330°





5. If a bicycle wheel has 48 spokes, then find the angle between a pair of adjacent spokes.

A.
$$\left(5\frac{1}{2}\right)$$

B. $\left(7\frac{1}{2}\right)$
C. $\left(\frac{2}{11}\right)$
D. $\left(\frac{2}{15}\right)$



6. In Fig. 2.6 $\angle XYZ$ cannot be written as



A. $\angle Y$

$\mathsf{B}. \angle ZXY$

$\mathsf{C}. \angle ZYX$

D. $\angle XYP$

Answer:



7. In Fig 2.5 if point A is shifted to point B along the ray PX such that PB = 2PA, then the

measure of $\angle BPY$ is



A. greater than $45^{\,\circ}$

B. $45^{\,\circ}$

C. less than $45^{\,\circ}$

D. 90°



8. The number of angles in Fig. 2.8 is



B. 4

C. 5

D. 6

Answer:

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9. The number of obtuse angles in Fig. 2.9 is



A. 2

B. 3

C. 4

D. 5





10. The number of triangles in Fig 2.10 is



B. 12

C. 13

D. 14

Answer:

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11. If the sum of two angles is greater than 180° , then which of the following is not possible for the two angles ?

A. One obtuse angle and one acute angle

- B. One reflex angle and one acute angle
- C. Two obtuse angles
- D. Two right angles

Answer:



12. If the sum of two angles is equal to an obtuse angle, then which of the following is not possible ?

A. One obtuse angle and one acute angle.

B. One right angle and one acute angle.

C. Two acute angles

D. Two right angles.

Answer:

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13. A polygon has prime number of sides. Its number of sides is equal to the sum of the two

least consecutive primes. The number of

diagonals of the polygon is

A. 4

B. 5

C. 7

D. 10

Answer:

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14. In Fig 2.11 AB = BC and AD = BD = DC.

The number of isoscles triangle in the figure is



C. 3

D. 4

Answer:



15. In Fig. 2.12 $\angle BAC = 90^{\circ}$ and $AD \perp BC$.

The number of right triangles in the figure is



A. 1

B. 2

C. 3

D. 4

Answer:

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16. In Fig. 2.13, $PQ\perp RQ=5$ cm and QR=5

cm. Then ΔPQR is



A. a right triangle but not isosceles

B. an isisceles right triangle

C. isosceles but not a right triangle

D. neither isosceles nor right triangle

Answer:



Exercise Fill In The Blanks To Make The Statements True

1. An angle greater than 180° and less than a

complete angle is called _____.

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2. The number of diagonals in a hexagon is



3. A pair of opposite sides of a trapezium are

A. equal

B. parallel

C. intersecting

D. coincident

Answer: B

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4. In Fig. 2.14 points lying in the interior of the triangle PQR are _____, that in the exterior are _____ and that on the triangle itself are





5. In Fig. 2.15, points A,B,C,D and E are collinear



$$AD = AB +$$

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6. In Fig. 2.15, points A,B,C,D and E are collinear



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7. In Fig. 2.15, points A,B,C,D and E are collinear



mid point of AE is _____

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8. In Fig. 2.15, points A,B,C,D and E are collinear


mid point of CE is _____

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9. In Fig. 2.15, points A,B,C,D and E are collinear

such that AB = BC = CD= DE. Then



$AE = _$ × AB.

10. In Fig. 2.16,



 $\angle AOD$ is a/an _____ angle

11. In Fig. 2.16,



 $\angle COA$ is a/an _____ angle

12. In Fig. 2.16,



 $\angle AOE$ is a/an____angle

13. The number of triangles in Fig. 2.17 is





15. The number of straight angles in Fig 2.17 is



16. The number of right angles in a straight angle is _____ and that in a complete angle is

17. The number of common point in the two angles marked in Fig. 2.18 is _____.





18. The number of common points in the two angles markes in Fig. 2.19 is B Watch Video Solution

19. The number of common point in the two angles marked in Fig. 2.20 _____



20. The number of common point in the two angles marked in Fig. 2.21 is _____.





21. The common part between the two angles

BAC and DAB in Fig. 2.22 is _____



Exercise State Whether The Statements Given In Questions Are True T Or False F

1. A horizontal line and a vertical line always intersect at right angles.



3. If the arms of an angle on the paper are

decreased the angle decreases.

4. If line PQ \parallel line MN, then line segment pq \parallel

mn



5. Two parallel lines meet each other at some point.



6. Measures of $\angle ABC$ and $\angle CBA$ in Fig 2.23

are the same.





7. Two line segments may intersect at two

points



9. Only one line can pass through a given

point.



2. Name the line segments shown in Fig. 2.25.



3. Statement the mid points of all the sides of

Fig. 2.26



4. Name the vertices and the line segments in

Fig. 2.27



5. Write down fifteen angles (less than 180°) involved in Fig. 2.28













$\angle 1 + \angle 2$



10. Name the following angles of Fig. 2.29, using three letters :



 $\angle 2 + \angle 3$



11. Name the following angles of Fig. 2.29, using three letters :



$\angle 1 + \angle 2 + \angle 3$



12. Name the following angles of Fig. 2.29, using three letters :



$\angle CBA$ - $\angle 1$



13. Name the point and then the line segments

in each of the following figures (Fig. 2.30):



14. Which points in Fig. 2.31, appear to be mid point of the line segments ? When you locate a mid - point, name the two equal oline segments formed by it







16. Is it possible for the same

angle to have two different measures ?



make measure of $\angle ABD$ in Fig. 2.32





18. Will the lenghts of line segment AB and line

segment BC make the length of line segment



19. Draw two acute angles and one obtuse angle without using a protractor. Estimate the measures of the angles. Measure them with the help of a protractor and see how much accurate is your estimate.



20. Look at Fig. 2.34. Mark a point

(a) A which is in the interior of both $\angle 1$ and $\angle 2$.

(b) B which is in the interior of only $\angle 1$.

(c) Point C in the interior of $\angle 1$.

Now, state whether points B and C lie in the

interior of $\angle 2$ also.





21. Find out the incorrect statement, if any, in the following An angle is formed when we

have

(a) two rays with a common end-point

(b) two line segments with a common end -

point

(c) a ray and a line segment with a common end - point

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22. In which of the following figures (Fig. 2.35),

(a) perpendicular bisector is shown ?

(b) bisector is shown ?


23. What is common in the following figures (i)

and (ii) (Fig. 2.36.) ?



24. If two rays intersect will their point of intersection be the vertex of an angle of which the rays are the two sides ?

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25. In Fig. 2.37

name any four angles that appear to be acute





26. In Fig. 2.37

name any two angles that appear to be obtuse

angles.







(a) What is AE + EC ?

(b) What is AC - EC ?

(c) What is BD - BE?

(d) What is BD - DE?



29. Using the information given, name the right angles in each part of Fig. 2.40:



30. What conclusion can be drawn from each part of Fig. 2.14, if

DB is the bisector of $\angle ADC$?





31. What conclusion can be drawn from each part of Fig. 2.14, if

BD bisects $\angle ABC$?





32. What conclusion can be drawn from each part of Fig. 2.14, if DC is the bisector of $\angle ADB, CA \perp DA$ and

$CB \perp DB$?





33. An angle is said to be trisected, if it is divided into three equal parts. If in Fig. 2.42 into three equal parts. If in fig. 2.42, $\angle BAC=$

 $\angle CAD = \angle DAE$, how many trisectors are

there for $\angle BAE$?





34. How many points are marked in Fig 2.43 ?











40. In Fig. 2.46, how many points are marked ?

Name them.





Name all chords of the circle.





Name all radii of the circle.





Name a chord, which is not the diameter of the circle.





Shade sectors OAC and OPB.





Shade the smaller segment of the circle formed by CP.



47. Can we have two acute angles whose sum

is

an acute angle ? Why or why not ?

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48. Can we have two acute angles whose sum

is

a right angle ? Why or why not ?

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49. Can we have two acute angles whose sum

is

an obtuse angle ? Why or why not ?



50. Can we have two acute angles whose sum

is

a straight angle ? Why or why not ?

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51. Can we have two acute angles whose sum

is

a reflex angle ? Why or why not ?

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52. Can we have two obtuse angles whose sum

is

a reflex angle ? Why or why not ?

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53. Can we have two obtuse angles whose sum

is

a complete angle ? Why or why not ?

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54. Write the name of

(a) vertices

(b) edges , and

(c) faces of the prism shown in Fig. 2.48





55. How many edges, faces and vertices are

there in a sphere ?





56. Draw all the diagonals of a pentagon

ABCDE and name them.

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