BASIC GEOMETRIC IDEAS

class: IX, Mathematics

SOLUTIONS (Board Integrated IIT material)

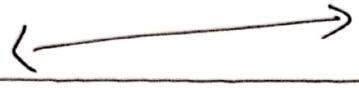
** TEACHING TASK

01. Diameter = 2 x radius

$d = 2r$

Ans: A

02 A line has no end points and extends in both the direction infinitely



Ans: D

03

segment

Ans: C

04. Sector

Ans: A

05 $r = 10\ cm$

$Area = \pi r^2$

$= 3.14 \times (10)^2$

$= 3.14 \times 100$

$= 314.$

Ans: B

06. $2\pi r = 31.4$

$2 \times \frac{22}{7} \times r = 31.4$

$\Rightarrow r = 31.4 \times \frac{1}{2} \times \frac{7}{22}$

$Area = \pi r^2$

$= \frac{22}{7} \times \left(31.4 \times \frac{1}{2} \times \frac{7}{22}\right)^2$

$= 78.5\ cm^2$

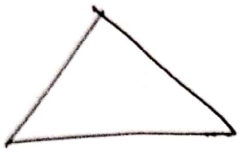
Ans: C

07. 

Two tangents

Ans: D

08 $d = \frac{r}{2}$ → This is false statement Ans: C

09. 

least no. of sides = 3 Ans: C

10. No. of diagonals = $\frac{n(n-3)}{2}$

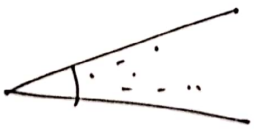
$= \frac{5(5-3)}{2} = \frac{5 \times 2}{2} = 5$ Ans: B

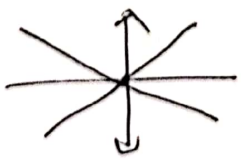
11.

Line segment → definite length + end points Ans: A

12 Statement: I: Conceptual (True)

Statement II: Circle can not be a polygon, it is a curve Ans: C

13. Statement I:  → it is not open area

statement II:  given one line, infinite number of lines can be drawn. Ans B

14 $r = 10\,cm$

Circumference $= 2\pi r$

$= 2 \times \frac{22}{7} \times 10 = 62.8\,cm$

Ans: B

15. ~~$r = 8$ cm~~

~~$d = 2r$~~

~~$= 2 \times 8$~~

~~$= 16$ cm~~

15. $r = 6$ cm

$d = 2r$

$= 2 \times 6$

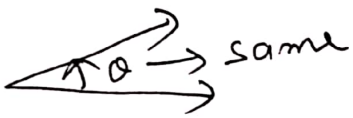
$= 12$ cm

16. a) Line → extends infinitely in both direction

b) Line segment → measured

c) A ray → → extendents infinitely in one direction

d) measure



Ans: S, R, Q, P

17 a) $n = 4$. No. of diagonal $= \frac{n(n-3)}{2}$

$= \frac{4 \times (4-3)}{2} = 2 \times 1 = 2$

b) $n = 6$ No. D $= \frac{6 \times 3}{2} = 9$

c) $n = 10$ No. D $= \frac{10 \times 7}{2} = 35$

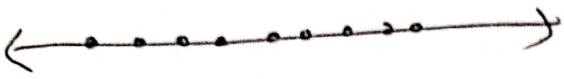
d) $n = 12$ No. D $= \frac{12 \times 9}{2} = 54$

Ans: S, R, Q, P

LEARNERS TASK

CUQ'S

01. Line contains infinite no. of points



Ans: B

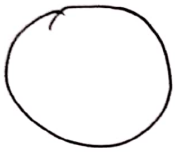
02

Ans: D

03

Ans: 2

04



Ans: A

05

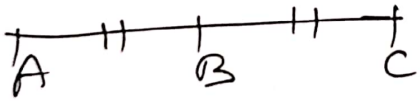
Ans: B

06

minimum number of points of intersection → 1

Ans: D

07



Ans: D

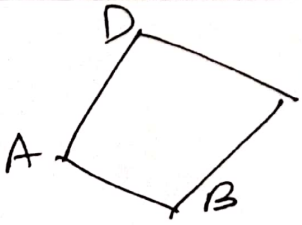
08 Interior points = P, Q, R

Ans: C

09. No. of vertices = 5

Ans: A

10



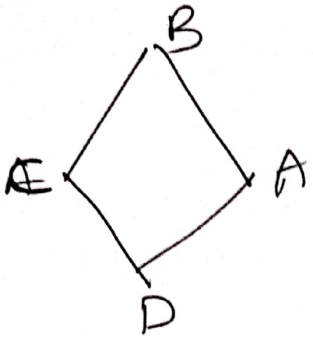
(∠A, ∠C), (∠B, ∠D)

2 pairs of opposite Angles

Ans: B

JEE MAINS LEVEL QUESTIONS (5)

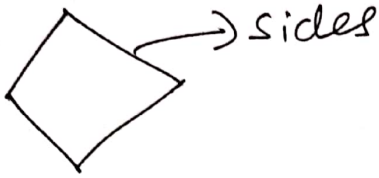
01



, (∠A, ∠B) → Adjacent Angles

Ans: ~~B~~

02

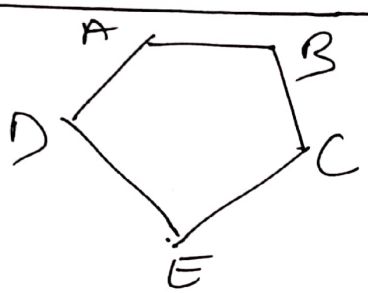


Ans: C

03 ∪ → open curve

Ans: A

04



→ 5 sides
5 Angles

Ans: C

05 ~~ΔAED~~,

05 ΔDAE, ΔBAE

Ans: C

06 points → Capital Letters of alphabets

Ans: B

07 $r = 20$

Longest chord = Diameter = $2 \times r$
$= 2 \times 20$
$= 40$ cm

Ans: A

08 Diameters → Infinite

Ans: e

09. $n = 11$.

No. of diagonals $= \frac{n(n-3)}{2}$

$= \frac{11 \times 8^{4}}{2} = 44$.

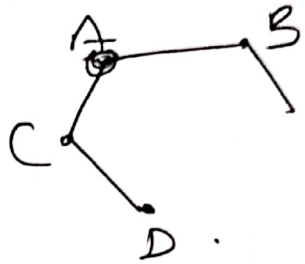
Ans. B

10. Given $n = 20$.

Total No. of diagonal $= \frac{n(n-3)}{2}$

$= \frac{20 \times 17}{2} = 170$

Let A does not send any diagonal.



Now, the opposite vertex one 17 (except B, C).

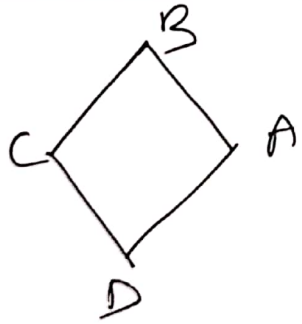
∴ There are no 17 diagonal.

∴ total No. of diagonals $= 170 - 17$

$= 153$

Ans: C

11



opposite sides → (AB, CD)

(AD, BC)

Ans: C, D

12 Statement I: radius can not be chord (False)

Statement II: centre can not belongs to circle

Ans: B

13 Diameter $= D = 5$

$\therefore r = \frac{D}{2} = \frac{5}{2}$

Circumference $= 2\pi r$

$= 2 \times \frac{22}{7} \times \frac{5}{2}$

$= 15.7$ Cms

Ans. A

14. Diameter = 2 x radius

Ans: 2

(7)

15 a) $r = \frac{d}{2}$

b) circumference $= 2\pi r$

c) area $= \pi r^2$

d) $d = 2r$

Ans :- P, r, q, S

$\Rightarrow$ THE END $\Leftarrow$