

BASIC GEOMETRICAL IDEAS

Class: VI, Mathematics

①

SOLUTIONS

FOUNDATION PLUS

TEACHING TASK

01. Conceptual

Ans. B

02

$$V + F = E + 2$$

$$8 + 6 = E + 2$$

$$\Rightarrow E = 12$$

Ans. A

03

$$PQ + QR = PR$$

$$3 + QR = 10$$

$$\Rightarrow QR = 7 \text{ cm}$$

Ans. B

04

$$4x = 24$$

$$\Rightarrow x = 6$$

$$\therefore AB = 3x$$

$$= 3 \times 6$$

$$= 18$$

$$AB + BC = 24 + 18$$

$$= 42$$

$$= AC$$

Ans. D

05

$$4CD - 2AB$$

$$= 4(4.5) - 2(6)$$

$$= 18.0 - 12$$

$$= 6$$

Ans. D

06

$$\frac{2}{3} AB = 42$$

$$\Rightarrow AB = 42 \times \frac{3}{2}$$

$$\Rightarrow AB = 36$$

$$\frac{1}{2} BC = 42$$

$$\Rightarrow BC = 42 \times \frac{2}{1}$$

$$\Rightarrow BC = 12$$

$$\therefore AB > BC$$

Ans. C

07

$$CD = 2x + 5 = 13$$

$$\Rightarrow x = 4$$

$$\text{Now, } AB + CD + DA$$

$$= (4 + 10) + (2 \cdot 4 + 5) + (5 \cdot 4 + 20)$$

$$= 14 + 13 + 40 = 67 \text{ cm}$$

Ans. A



08	Conceptual	(2)	Ans: C
09	Conceptual		Ans: A
10	$AB - CD = 4.6 - 3.8 = 0.8 \text{ cm}$		Ans: C
11	Conceptual		Ans: B, C
12	$2AB - 3CD$ $= 2(6.5) - 3(3.5)$ $= 13 - 10.5 = 2.5 \text{ cm or } \frac{5}{2} \text{ cm}$		Ans: C, D
13	Conceptual		Ans: A
14	Conceptual		Ans: A
17	$\frac{4}{7} AB = 19.6$ $\Rightarrow AB = 19.6 \times \frac{7}{4}$ $\Rightarrow AB = 34.3$ $CD - 4.6 = 30.1$ $\Rightarrow CD = 34.7$ $BC + 12.4 = 37.9$ $BC = 25.5$ $\frac{DE}{8} = 2.7$ $DE = 21.6$ Now, $AB + BC = 34.3 + 25.5 = 59.8$ $DE + BC = 21.6 + 25.5 = 47.1$ $\therefore AB + BC > DE + BC$		Ans: A
18	$AB + BC + CD - x = DE$ $\Rightarrow x = AB + BC + CD - DE$ $= 34.3 + 25.5 + 34.7 - 21.6$ $= 72.9$		Ans: A
21	$d = 20 \text{ cm}, r = \frac{d}{2} = \frac{20}{2} = 10 \text{ cm}$		Ans: 10
22	$3AB - CD = 3(6) - 5 = 18 - 5 = 13$		Ans: 13

23

$$a \rightarrow r, b \rightarrow s, c \rightarrow p, d = p$$

(3)

24

$$a \rightarrow s, b \rightarrow r, c \rightarrow q, d \rightarrow t$$

LEARNERS TASK

01. Conceptual

Ans: B

02. Conceptual

Ans: A

03. Conceptual

Ans: C

04. Conceptual

Ans: A

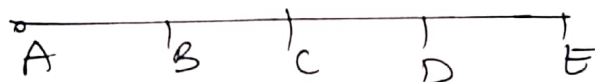
05. Conceptual

Ans: D

06. Conceptual

Ans: D

07



Line Segments = AB, AC, AD, AE
BC, BD, BE, CD, CE, DE

No: 10

Ans: A

08. Conceptual

Ans: A

09. Conceptual

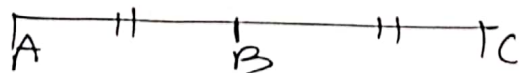
Ans: B

10. Conceptual

Ans: D

JEE MAINS LEVEL

01



Ans: D

02. Conceptual

Ans: A

03

$$35 \text{ cm} = \frac{35}{100} \text{ m} = 0.35 \text{ m}$$

Ans: A

04 Conceptual

(4) Ans: C

05 Conceptual

Ans: A

06 $\frac{BC}{2} = \frac{20}{2} = 10 \text{ cm}$

Ans: B

07 $x + 10 = 5$
 $\Rightarrow x = -5 \text{ cm}$

$BC = x + 5$
 $= -5 + 5$
 $= 0$

$\therefore AB + BC = 5 + 0 = 5 \text{ cm}$

Ans: A

08 Conceptual

Ans: D

09 Conceptual

Ans: D

10 P, Q, R.

Ans: C

11. $5AB - 3CD$
 $= 5(5) - 3(3)$
 $= 25 - 9$
 $= 16 \text{ cm}^2 \text{ (or)} 4^2 \text{ cm}^2 \text{ (or)} 4 \times 4 \text{ cm}^2$

Ans: A, B, C

BALANCED LEVER

12 Conceptual

Ans: A

17 $\overline{MN}, \overline{PG}$

Ans: A, C

21 $n = 4$, No. of line segments = $\frac{n(n-1)}{2}$
 $= \frac{4 \times 3}{2} = 6$ Ans: 6

23 $a \rightarrow q, b \rightarrow r, c \rightarrow r, d \rightarrow p$

Teaching Task

15. Assertion: Conceptual (True) Ans.. A
Reason: Conceptual (True)

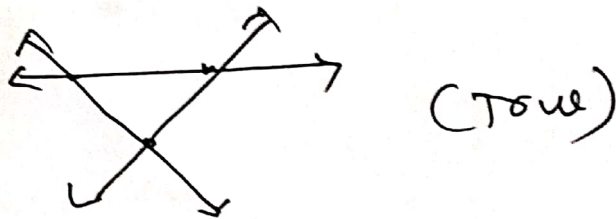
16. Assertion: Conceptual (True).
For pentagon $n = 5$
No. of diagonals = $\frac{n(n-3)}{2} = \frac{5(5-3)}{2} = 5$
Reason: Conceptual (True) Ans.. A

19. Scalene triangle Ans: C

20. Perimeter = $5 + 6 + 7 = 18$ cm Ans. B

LEARNERS TASK (JEE MAINS)

13. Statement I:



Statement II: Conceptual (True) Ans. A

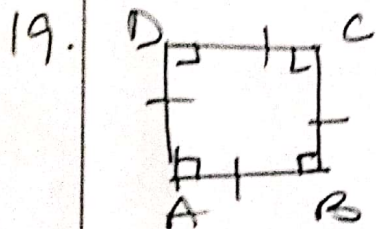
14. Statement I: Conceptual (True) Ans.. A

Statement II: Conceptual (True)

15. Assertion: Conceptual (True)
Reason: Conceptual (False) Ans: C

16. Assertion: Conceptual (True)
Reason: Conceptual (True) Ans. A

18. radius = 0 Ans: C



ABCD is a square

Ans: A

20 Perimeter = $4 \times 6 = 24 \text{ cm}$

Ans: C

22. No. of diagonals of a polygon = $\frac{n(n-3)}{2} = 20$

$\Rightarrow n(n-3) = 40$

Let $n = 8$: $8(8-3) = 40$

Ans: 8

24. a) $n = 3$
No. of diagonals = $\frac{n(n-3)}{2} = \frac{3(3-3)}{2} = 0 (P)$

b) $n = 4$
No. of diagonals = $\frac{4(4-3)}{2} = 2 (Q)$

c) $n = 5$
No. of diagonals = $\frac{5(5-3)}{2} = 5 (R)$

d) $n = 6$
No. of diagonals = $\frac{6(6-3)}{2} = \frac{6 \times 3}{2} = 9 (S)$

Ans: P, Q, R, S

$\Rightarrow$ THE END $\Leftarrow$