

1. INTEGERS

2025/26

Class: VI; MATHEMATICS ①

FOUNDATION SOLUTIONS

TEACHING TASK JEE MAINS LEVEL

01.	Conceptual	Ans: B
02	Conceptual	Ans: B
03	$(-1) \times (-2) \times (-3) = -6$	Ans: A
04	Conceptual	Ans: D
05	Conceptual	Ans: C
06	Conceptual	Ans: B
07	$ -a + -2a = a + 2a = 3a$	Ans: A
08	Conceptual	Ans: A
09	$42 < 65$	Ans: A
10	$x > a \Rightarrow x - a > 0 \Rightarrow x - a = (x - a)$	Ans: A
11	$ 2 + -12 = 2 + 12 = 14$ $2 + -3 = 2 + 3 = 5$ $\therefore 14 > 5$	Ans: B
12	$ -7 - -6 + -8 $ $= 7 - 6 + 8 = 9$	Ans: B

14. Conceptual

(2) Ans: C

15 $1.2 < 1+2$

Ans: D

16 $n^3 \rightarrow \text{Even}, n^2 \rightarrow \text{Even}$

Ans: C

17 $2n+1 \rightarrow \text{not prime nos.}$

$n=3 \Rightarrow 2(3)+1=7, \text{prime no.}$

$n=4 \Rightarrow 2(4)+1=9, \text{not prime no.}$

$n=5 \Rightarrow 2(5)+1=11, \text{prime no.}$

Ans: B

18 $n=1 \Rightarrow 2(1)-1=1 > 0$

$n=0 \Rightarrow 2(0)-1=-1 < 0$

Ans: D

19 $x > 10 \Rightarrow x-10 > 0 \Rightarrow |x-10| = x-10$

Ans: A

20 $6 > 3 > -3 > -6 > -36 > -61$

Ans: C

21 $-9 < -3 < -1 < 3 < 10$

Ans: A

JEE ADVANCED LEVEL

01 Conceptual

Ans: A, B, C, D

02 Conceptual

Ans: C, B

03 Conceptual

Ans: C, D

04 Conceptual

Ans: A, B, C

05 Conceptual

Ans: D

06 Conceptual

Ans: A

07 Assertion: $|-1|=1, |0|=0, |2|=2$
2 has greatest absolute value (False)
Reason: Conceptual (True)

Ans: D



67. Assertion: Conceptual (True)
Reason: Conceptual (True)

Ans: A

(3)

69. Final position = -3

Ans: B

10 Net movement = $5 + (-8) = -3$

Ans: C

11. $|-a| = -x \Rightarrow x < 0$

Ans: A

12 $|y| = z \Rightarrow z > 0$

Ans: B

13 $|-5| \cdot |11| = 5 \times 11 = 55$

Ans: B

14. $a = \text{Even} \rightarrow 2$
 $b = \text{odd} \rightarrow 3$
 $ab = 6$ (Even)

Ans: Even

15 Conceptual

Ans: I

16. Conceptual

Ans: O

17. Conceptual

Ans: O

18 a) -5 is a negative integer (s)
b) 0 is neither positive nor negative (q)
c) 4 is positive integer (r)
d) $-(-8) = 8$, opposite of a negative integer (p)

Ans: s, q, r, p

19. a) $|-25| = 25$; b) $|457| > -457$
c) $|0| = 0$ d) $-110 < 0$

Ans: r, p, t, q

LEARNERS TASK (Ques) (4)

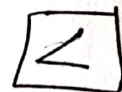
01.	Conceptual	Ans. B
02.	Conceptual	Ans. C
03.	Conceptual	Ans. B
04.	Conceptual	Ans. B
05.	$ 31 = 31$	Ans. B
06.	$ -203 = 203$	Ans. C
07.	$4 + 1 - 1 + 1 - 1 = 4 + 1 - 1 + 1 = 5$	Ans. C
08.	$a + b > 0 \Rightarrow a + b = a + b$	Ans. A
09.	$ 11 + -11 = 11 + 11 = 22$	Ans. B
10.	$ 0 = 0$	Ans. A
11.	Conceptual	Ans. D
12.	Conceptual	Ans. A
13.	$ a - -a = a - a = 0$	Ans. C
14.	$ -x + -y = x + y$	Ans. A

JEE MAINS LEVEL

01.	Conceptual	Ans. C
02.	Conceptual	Ans. D
03.	$10 > 3 > 0 > -1 > -3 > -9$	Ans. A

$$04. \quad |-3| - |3| + |0| = 3 - 3 + 0 = 0$$

$$|2| + |4| + |-3| = 2 + 4 + 3 = 9$$



Ans: A

$$05. \quad |a| = -a \Rightarrow a < 0$$

$$|b| = b \Rightarrow b > 0$$

Ans: B

$$06. \quad |a| = a = -b \quad (\text{or}) \quad b = -a$$

Ans: B

$$07. \quad a + b + c < 0$$

Ans: B

$$08. \quad a = |-2| + |2| + |-1| \quad \left| \quad b = |-3| + |3| + |1| \right.$$

$$= 2 + 2 + 1 \quad \left| \quad = 3 + 3 + 1 \right.$$

$$= 5 \quad \left| \quad = 7 \right.$$

$$\therefore a + b = 12 > 0$$

Ans: D

$$09. \quad |a+b| = -(a+b) \quad \left| \quad |x+y| = x+y \right.$$

$$\Rightarrow a+b < 0 \quad \left| \quad x+y > 0 \right.$$

$$\therefore x+y > a+b$$

Ans: B

$$10. \quad |x+1| = (x+1) \Rightarrow x+1 > 0 \Rightarrow x > -1$$

$$|y+1| = -(y+1) \Rightarrow y+1 < 0 \Rightarrow y < -1$$

$$\therefore x > y$$

Ans: A

$$11. \quad |l+m| = l+m \quad \text{Since } l+m > 0$$

$$= a+b$$

$$\therefore a = l, b = m \quad (\text{or}) \quad a = m, b = l$$

Ans: D

$$12. \quad |y| = -x$$

$$|x| + |y| = -(x+y) = -(|x| + |y|)$$

Ans: C

13 $|a+b|=5$ $|b+c|=-10$ $|c+a|=-15$ (6)
 $\Rightarrow a+b=\pm 5$
 $\therefore a+b > 0$ or $a+b < 0$
 Not possible
 Not possible
 Ans: D

14 $|x| > |y| > |z|$
 Option: B $x=20, y=-15, z=10$
 Ans: B

15 $|x-a|=x-a$ $|x-a|=a-x$
 $\therefore x-a > 0$ $= -(x-a)$
 $\Rightarrow x-a < 0$
 $\therefore (x-a) + (x-a) = 2(x-a)$
 Ans: A

16 $|a|=b-c$ $|b-c|=b-c$
 $\Rightarrow \pm a = b-c$ $\Rightarrow b-c > 0$
 Case (i) $a = b-c \Rightarrow b-a = c$
 Case (ii) $-a = b-c \Rightarrow b+a = c$
 Ans: B

IEEE ADVANCED LEVEL

01 Conceptual Ans: B

02 Conceptual Ans: A, B

03 Conceptual Ans: A, B, C

04 Conceptual Ans: A, B, C, D

05 $| -11 + |11| + |-11| + \dots + 111 \text{ (111 times)} |$ (7)
 $= 1 + 1 + 1 + \dots + 1 \text{ (111 times)}$
 $= 1 \times 111 = 3 \times 37$ Ans: D

06 Statement I: $|a-b| = |a| + |b|$ (False)

Statement II: Conceptual (True)

Ans: D

07 Statement I: Conceptual (True)

Statement II: Conceptual (False)

Ans: C

08 Assertion: Conceptual (True)

Reason: Conceptual (True)

Ans: A

09. Assertion: Conceptual (True)

Reason: Conceptual (True)

Ans: A

10 $| -6 | = 6$

Ans: A

11 Conceptual

Ans: C

12 $|x^2 - y^2| = |(x+y)(x-y)|$
 $= |x+y| |x-y|$
 $= (x+y) [-(x-y)]$
 $= -(x^2 - y^2)$
 $= y^2 - x^2$

Ans: B

13 $|a^2 - b^2| = |(a+b)(a-b)|$

$= |a+b| |a-b|$
 $= -(a+b) \cdot -(a-b)$
 $= a^2 - b^2$

Ans: A

$$\begin{aligned}
 14 \quad |m^2 - n^2| &= |(m+n)(m-n)| \\
 &= |m+n| |m-n| \\
 &= (m+n)(m-n) \\
 &= m^2 - n^2
 \end{aligned}$$

Ans: B

$$15 \quad (-3) + (-2) + (-1) + (0) + (1) + (2) + (3) = 0$$

Ans: 0

$$16 \quad 9999$$

Ans: 9999

$$17 \quad \frac{1 - |-100| + |-200| + |-300| + |-400|}{1 - 1 + 1 - 2 + 1 - 3 + 1 - 4}$$

$$\begin{aligned}
 &= \frac{1 - 100 + 200 + 300 + 400}{1 + 2 + 3 + 4} \\
 &= \frac{801}{10} = 80.1 \rightarrow \text{Integral value} = 80 \quad \text{Ans: 80}
 \end{aligned}$$

$$18 \quad \left| 1 + \frac{1}{2} + \frac{1}{3} + \frac{1}{6} \right|$$

$$= \left| \frac{6 + 3 + 2 + 1}{6} \right| = \left| \frac{12}{6} \right| = 2$$

Ans: 2

$$\begin{array}{l|l}
 19 \quad a) a < 2 & 2 < b \\
 \Rightarrow a-2 < 0 & b-2 > 0 \\
 \therefore |a-2| + |b-2| & \\
 = -(a-2) + (b-2) & \\
 = b-a & \\
 \hline
 c) a > 2, & 2 < b \\
 a-2 > 0, & b-2 > 0 \\
 |a-2| + |b-2| = a-2 + b-2 & \\
 = a+b-4 &
 \end{array}$$

$$\begin{array}{l}
 b) a > 2, b < 2 \\
 a-2 > 0, b-2 < 0 \\
 \therefore |a-2| + |b-2| \\
 = (a-2) - (b-2) = a-b \\
 \hline
 d) a < 2, b < 2 \\
 a-2 < 0, b-2 < 0 \\
 |a-2| + |b-2| \\
 = -(a-2) - (b-2) \\
 = 4 - a - b \quad \text{Ans: x, t, p, s}
 \end{array}$$

Q0 a) +20 (p)

b) -3 (q)

c) 5 (r)

d) -6 (s)

Ans. p, q, r, s

⇒ THE END ⇐