

I. INTEGERS AND ① ARITHMETIC OPERATIONS Class: VII ; MATHEMATICS FOUNDATION: SOLUTIONS

TEACHING TASK
(JEE MAINS LEVEL)

2025/26

01. $(-12) + 8 + (-5) + 3 = -6$

Ans. B

02. $1 + 2 + 3 + \dots + 10 = \frac{n(n+1)}{2} = \frac{10 \times 11}{2} = 55$ Ans. B

03.
$$\begin{array}{r} a + b = 8 \\ a - b = 4 \\ \hline 2a = 12 \\ a = 6 \end{array}$$

Ans. A

Ans. A

04. $1 \times 2 \times 3 \times 4 \times 5 = 120$

Ans. B

05. $(-2) \times (-5) \times (-30) = -300$

06. $p \times (-3) = 9 \Rightarrow p = -3$

$p \times q = -18 \Rightarrow (-3) \times q = -18 \Rightarrow q = 6$ Ans. C

Ans. A

07. $m \times (-2) = -16 \Rightarrow m = 8$

Ans. C

08. Conceptual

Ans. C

09. $15 \times (-25) \times (-4) \times (-10) = -15000$

10

$$45 \div (-9) = -5$$

(2) Ans: A

11

$$p \div (-2) = -6 \Rightarrow p = (-6) \times (-2) = 12$$

Ans: D

12

$$\frac{-12}{-3} = 4$$

Ans: A

13

$$-107 - (-20) - 5 = -107 + 20 - 5 = -92$$

Ans: B

14

$$-21 \times 21 = -441$$

Ans: B

15

$$8 \times 53 \times (-125) = -53000$$

Ans: B

16

$$22 \times (-1) \times (-2) \times (-10) = -440$$

Ans: A

17

$$5 + (-5) + (5) + (-5) + \dots \text{(400 times)} = 0$$

Since 400 is even number

Ans: A

18

$$60 + x = -300 \Rightarrow x = -360$$

Ans: B

19

$$7 + x = 20 \Rightarrow x = 13$$

Ans: A

20

$$y + a = x \Rightarrow a = x - y$$

Ans: A

21

$$a \times y = x \Rightarrow a = \frac{x}{y}$$

Ans: A

22

$$(-1) \times x = -120 \Rightarrow x = 120$$

Ans: A

23

$$\frac{m}{-3} = 9 \Rightarrow m = -27$$

Ans: A

JEE ADVANCED LEVEL

01

A) $-5 > 2$ (False)

C) $-2 > 0$ (False)

B) $0 < 3$ (True)

D) $-5 < 3$ (True)

Ans: B, D



02.	Options: A, B, C Conceptually true	Ans: A, B, C
03	Conceptual:	Ans: A, B, C, D
04	a) $a = (-6) \times (4 + 2) = -6 \times 6 = -36$ b) $b = -6 \times 4 + 2 = -24 + 2 = -22$ c) $c = -6 \times (4 + 2) = -6 \times 6 = -36$ clearly $a = c$	Ans: B
05	<u>Assertion:</u> Conceptual (True) <u>Reason:</u> Conceptual (True)	Ans: A
06.	<u>Assertion:</u> Conceptual (True) <u>Reason:</u> Conceptual (True)	Ans: A
07	<u>Statement I:</u> Conceptual (True) <u>Statement II:</u> Conceptual (True)	Ans: A
08	<u>Statement I:</u> Conceptual (False) <u>Statement II:</u> Conceptual (False)	Ans: —
09	513627	Ans: B
10.	Multiplicative Identity	Ans: B
11.	$a - b$ or $-(b - a)$	Ans: C
12	-12	Ans: D
13	2000 $= 2005 + 5$ B) $-3 \times -4 = 12$ (Positive)	Ans:

14	$-2 \times 0 \times 5 = 0$	Ans. B
15	$2 \times 10 \times (-5) = -100$	Ans. -100
16	$1 - 1 + 1 - 1 + \dots$ (111 times) = 1 Since 111 is an odd number	Ans. 1
17	Other no = $\frac{139750}{-2150} = -65$	Ans. -65
18	$\frac{12}{-3} = -4$	Ans. -4
19	$5 + 6 \div 12 \times 2 = 5 + \frac{6}{12} \times 2 = 5 + 1 = 6$	Ans. 6
20	a) $-\frac{36}{6} = -6$ b) $\frac{48}{-6} = -8$ c) $\frac{-100}{-10} = 10$ d) $\frac{0}{-9} = 0$	Ans. 9, 15, 8
21	a) $(-51) \times (16 + 13) = (-51) \times 16 + (-51) \times 13$ b) $(-51 + 16) \times 13 = (-51) \times 13 + 16 \times 13$ c) $(-51 + 16) + 13 = (-51) + (16 + 13)$ d) $(-51) + (16 - 13) = (-51 + 16) - 13$	Ans. 5, 8, 16, 9
LEARNER'S TASK (CQA'S)		
01	$(-373) + (20) + (-3) + (-5) = -361$	Ans. A
02	3576	Ans. D
03	-30	Ans. D

04	$(-312) + 39 + 192 = -81$	Ans: C
05	151	Ans: D
06	-8	Ans: C
07	-30	Ans: A
08	-23	Ans: A
09	Conceptual	Ans: B
10	$b + a = 9 \Rightarrow b = 3 - 9 \Rightarrow b = -6$	Ans: B
JEE MAINS LEVEL		
01.	$\begin{array}{l} a + b = 40 \\ a - b = 4 \\ \hline 2a = 44 \\ a = 22 \end{array}$ $\begin{array}{l} b = 18 \\ a : b = 22 : 18 \\ = 11 : 9 \end{array}$	Ans: A
02	Let the numbers be $a, \frac{a}{2}$ $\therefore a + \frac{a}{2} = 60 \Rightarrow 2a + a = 120 \Rightarrow a = 40$ Ans: B	
03	Let the nos. be $a, a+5$ $\Rightarrow a + a + 5 = 25 \Rightarrow a = 10$ Ans: A	
04	$368 \times (12 + 18) = 368 \times 30 = 11040$ Ans: B	
05	$a + b + c = x \Rightarrow a + (-y) = x \Rightarrow a = x + y$ Ans: B	
06	$a + b + c + d = X$ $\Rightarrow Y + Z = X$ Ans: A	

15 option Verification ⑦
 $x \times (y+1) = 16$
opt: A $x=2, y=1 \quad \therefore 2 \times (1+1) = 16$ Ans. A

16 $0+x=0 \Rightarrow x=-a$ Ans: B

17. Conceptual Ans: A

18 $x \times (y+z) = 34$
option verification
opt: A: $2 \times (8+9) = 2 \times 17 = 34$ Ans.. A

ADVANCED LEVEL QUESTIONS

01. Conceptual Ans.. A, B, D

02 Conceptual Ans.. A, C

03 Conceptual Ans: A, B

04 $ab = 10, cd = 30$ Ans: A, B

05 $x=5, y=3, z=4$
 $y^2 + z^2 = 9 + 16 = 25 = x^2$ Ans: A, B

06 Conceptual
B) $a \cdot 1 = 1 \cdot a = a$ Ans: A, B

07 $3x(a+b) = 2x(5+b)$
A) $a=1, b=7$
 $3 \times (1+7) = 3 \times 8 = 24$
 $2 \times (5+7) = 2 \times 12 = 24$ Ans: A

08	Assertion (A): Conceptual (True) Reason (R): Conceptual (True)	Ans. A
09	Assertion (A): Conceptual (True) Reason (R): Conceptual (True)	Ans. A
10	Statement I: Conceptual (True) Statement II: Conceptual (True)	Ans. A
11	Statement I: Conceptual (False) Statement II: Conceptual (False)	Ans. —
12	Statement I: Conceptual (True) Statement II: Conceptual (False)	Ans. C
13	$(a+b-1)+1=a+b$	Ans. A
14	$a-y-y$	Ans. C
15	$(a+1)+(a-1)=2a$	Ans. C
16	$b = \frac{a+c}{2}$	Ans. A
17	$b \neq d = 2c$	Ans. B
18	$a, b, c, d \rightarrow$ consecutive integers let $1, 2, 3, 4 \Rightarrow 1+4=2+3$	Ans. C
19	$\frac{c}{-4} = 5 \Rightarrow c = -20$	Ans. -20

20 $b+9=3 \Rightarrow b=3-9=-6$ Ans: -6
(9)

21 $1+\frac{1}{2}+\frac{1}{3}+\frac{1}{6}$
 $=\frac{6+3+2+1}{6}=\frac{12}{6}=2$ Ans: 2

22 $1+2+3+\dots+100=\frac{n(n+1)}{2}$
 $=\frac{100 \times 101}{2}=5050$ Ans: 5050

23 $-50, -49, -48, \dots, -1, 0, 1, 2, 3, \dots, 50=0$
Ans: 0

- 24 (a) Associative Under addition
(b) Distributive
(c) Additive identity
(d) Multiplicative identity
(e) Distributive
Ans: x, t, p, q, t

~~24~~ (a) ~~$a=1, b=2, c=3$~~
 ~~$a+(b \times c) \neq a \times (b+c)$~~

25 a) $-9-(-3)=-9+3=-6$ (q)

b) $5-9=-4$ (p)

c) $-4-6=-10$ (s)

d) $3-(-2)=3+2=5$ (r)

Ans: q, p, s, r

$\Rightarrow$ THE END $\Leftarrow$