Integers

MATHEMATICAL REASONING

1. The integer which is 5 more than $(-2+(-4))$ is ____.
(a) – 1 (b) –2
(c) 1 (d) 2

2. Which of the following integers is greatest?
(a) –16
(b) –18
(c) –20
(d) –83

3. Find the sum of –23, 18, –26, –57.
(a) –40
(b) –88
(c) –60
(d) –20

4. Which of the following statements is true? (If N, Wand I represents Natural number, Whole number and Integer respectively)
(a) $N \subset W \subset I$
(b) $I \subset N \subset W$
(c) $W \subset N \subset I$
(d) $I \subset W \subset N$

5. Which sign will come in the box to make the expression true?
$(-6)+(-5)-2 \square (-6)+(-5-2)$
(a) <
(b) >
(c) =
(d) None of these

6. Every positive integer is _____ than every negative integer.
(a) greater
(b) smaller
(c) neither greater nor smaller
(d) None of these

7. Select the CORRECT statement.
(a) If the dividend and divisor have opposite signs, then the quotient will be negative.
(b) If the two factors of a number are of same signs, then their product is positive.
(c) If the addends are of same sign, then the sign of their sum is the same as the sign of the addends.
(d) All of these

8. Which of the following shows the maximum rise in temperature?
(a) 0°C to 10°C
(b) - 4°C to 8°C
(c) -15°C to -8°C
(d) -7°C to 0°C

9. Which of the following is INCORRECT?
(a) Positive integer > zero > negative integer
(b) Positive integer > negative integer < zero
(c) Zero < positive integer > negative integer
(d) Positive integer > zero < negative integer

10. In which of the following pairs of integers, the first integer is not on the left of the other integer on the number line?
(a) (–1, 10) (b) (–3, –5)
(c) (–5, –3) (d) (–6, 0)

11. Zero is _____ every negative integer.
(a) smaller than (b) equal to
(c) greater than (d) None of these

12. Which of the following is CORRECT?
(a) -99<0<2<-37 (b) -99<-37<0<2
(c) -37<0<2<-99 (d) -37<-99<0<2

13. Sum of two integers is -35. If one of them is 15, then other one is
(a) 20 (b) –20
(c) –50 (d) 50

14. The value of
(–172) + (–40) + 5 + (–425) + (–275) + 600 – (–15) is
(a) 315
(b) –201
(c) 400
(d) –292

15. Amit walked 5 km towards East, then 8 km towards West. Now, his position is represented as (East represents +ve and west represent -ve)
(a) – 3 km
(b) + 3 km
(c) – 8 km
(d) + 8 km

16. Multiplying a negative integer for even number of times gives a ___ result.
(a) Positive
(b) Negative
(c) 0
(d) Both (a) and (b)

17. Which of the following options shows the given number sentence?
–13 + (–3) = –16
(a) When two positive integers are added, we get a positive integer.
(b) When two negative integers are added, we get a negative integer.
(c) The subtraction of an integer is the same as the addition of its additive inverse.
(d) All of these

18. The integer '5 units to the right of 0 on the number line' is
(a) + 5 (b) – 5
(c) + 4 (d) – 4

19. Subtract -5308 from the sum [(–2100) + (–2001)].
(a) 1207
(b) 1210
(c) 1215
(d) 1200

20. Amulya and Amar visited two places A and B respectively in Kashmir and recorded the minimum temperatures on a particular day as –4°C at A and –1°C at B. Which of the following statements is true?
(a) A is cooler than B.
(b) B is cooler than A.
(c) There is a difference of 2°C in the temperature.
(d) The temperature at A is 4°C higher than that at B.

EVERYDAY MATHEMATICS

21. Jatin's monthly salary is Rs.12000. He spends Rs.1450 for his son's education, Rs.550 for purchasing clothes, Rs.450 for purchasing vegetables, milk, etc., Rs.1500 for purchasing medicine and pays a rent of Rs.5000 in a particular month. How much does he save in this month?
(a) Rs. 4255 (b) Rs. 4960
(c) Rs. 3165 (d) Rs. 3050

22. In a set of 12 questions, 4 marks are awarded for every correct answer and -2 marks for every wrong answer. Smriti gets five correct and seven wrong answers. What is her score?
(a) 6 (b) 8
(c) 9 (d) 12

23. Arnav travelled to school 10 km West from his house. He then travelled to the central library 35 km East from school. Find the distance between the house and the central library.
(a) 24 km (b) 25 km
(c) 22 km (d) 23 km

24. Arun has Rs.125 in his savings account. He withdraws a cheque of Rs.117, makes a deposit of Rs.45 and then withdraws another cheque for Rs.69. Find the amount left in his account, (write the amount as an integer).
(a) Rs. (–16) (b) Rs. (16)
(c) Rs. (30) (d) Rs. (–30)

25. On one day, the temperature on a hill at 8 p.m. was 2°C but at mid-night, it fell down to -3°C. By how many degrees did the temperature fall?

(a) 5°C (b) 6°C
(c) 7°C (d) 8°C

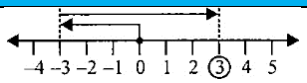
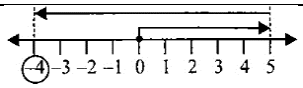
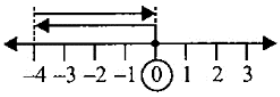
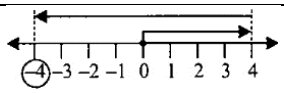
ACHIEVERS SECTION (HOTS)

26. Fill in the blanks.

(i) The additive identity of the integers is P.
(ii) The integer which is 8 less than – 24 is Q.
(iii) Every integer less than zero is R.

	P	Q	R
(a)	0	– 32	negative
(b)	1	– 32	positive
(c)	0	– 16	negative
(d)	1	– 32	negative

27. Match the following.

Column – I	Column – II
(i) 	(a) 5 – 9
(ii) 	(b) 4 – 8
(iii) 	(c) – 3 + 6
(iv) 	(d) – 4 + 4

(a) (i) → (a); (ii) → (c); (iii) → (d); (iv) → (b)
(b) (i) → (c); (ii) → (a); (iii) → (d); (iv) → (b)
(c) (i) → (d); (ii) → (c); (iii) → (b); (iv) → (a)
(d) (i) → (b); (ii) → (d); (iii) → (a); (iv) → (c)

28. Which of the following statements is INCORRECT?

(a) – 2 < – 1, since – 2 lies on the left of – 1 in the number line.
(b) – 1 > – 4, since – 1 lies on the right of – 4 in the number line.
(c) – 4 > – 5, since – 5 lies on the left of – 4 in the number line.
(d) – 3 > – 5, since – 5 lies on the right of – 3 in the number line.

29. State 'T' for true and 'F' for false.

(i) Since 5 > 3, therefore - 5 > - 3.
(ii) The difference between an integer and its additive inverse is always even.
(iii) The sum of three different integers can never be zero.
(iv) All whole numbers are integers.

	(i)	(ii)	(iii)	(iv)
(a)	T	F	T	F
(b)	F	F	T	T
(c)	F	T	F	T
(d)	T	T	F	F

30. Match the following.

Column – I	Column – II
(i) The additive inverse of 2	(a) 0
(ii) The greatest negative integer	(b) – 2
(iii) The smallest integer greater than every negative integer	(c) 2
(iv) Sum of predecessor and successor of 1	(d) – 1

(a) (i) → (c), (ii) → (d), (iii) → (a), (iv) → (b)
(b) (i) → (b), (ii) → (d), (iii) → (a), (iv) → (c)
(c) (i) → (c), (ii) → (d), (iii) → (b), (iv) → (a)
(d) (i) → (b), (ii) → (c), (iii) → (a), (iv) → (d)

ANSWER KEY									
1.	A	**2.**	A	**3.**	B	**4.**	A	**5.**	C
6.	A	**7.**	D	**8.**	A	**9.**	D	**10.**	B
11.	C	**12.**	B	**13.**	C	**14.**	D	**15.**	A
16.	A	**17.**	B	**18.**	A	**19.**	A	**20.**	A
21.	D	**22.**	A	**23.**	B	**24.**	C	**25.**	A
26.	A	**27.**	B	**28.**	D	**29.**	C	**30.**	A

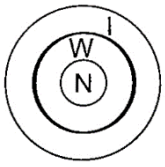
HINTS & EXPLANATIONS

1. (a) : Required integer $= 5 + (-2 + (-4))$
$= 5 + (-2 - 4) = 5 - 6 = -1$

2. (a)

3. (b) : Required sum
$= (-23) + 18 + (-26) + (-57)$
$= 18 + (-23 - 26 - 57) = 18 - 106 = -88$

4. (a) :



5. (c) : $(-6) + (-5) - 2 = -6 - 5 - 2 = -13$
$(-6) + (-5 - 2) = -6 - 7 = -13$
Now, $-13 = -13$
$\therefore (-6) + (-5) - 2 = (-6) + (-5 - 2)$

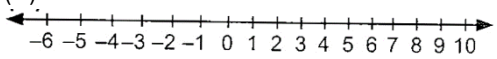
6. (a)

7. (d)

8. (a) : (a) Rise in temperature $= (10 - 0)°C$
$= 10°C$
(b) Rise in temperature $= (8 - (-4))°C$
$= (8+4)°C = 12°C$
(c) Rise in temperature $= (-8 - (-15))°C$
$= (-8 + 15)°C = 7°C$
(d) Rise in temperature $= (0 - (-7))°C$
$= (0+7)°C = 7°C$
Thus, option (b) has maximum rise in temperature.

9. (d)

10. (b):



On observing all the options by using a number line, we get that there is only one pair $(-3, -5)$ in which the first integer is not on the left of the other integer.

11. (c)

12. (b)

13. (c) :One number = 15
Let other number be x.
According to question,
$x + 15 = -35$
$\Rightarrow x = -35 - 15 = -50$

14. (d) :We have,
$(-172) + (-40) + 5 + (-425) + (-275) + 600 - (-15)$
$= (-172 - 40 - 425 - 275) + (5 + 600 + 15)$
$= -912 + 620 = -292$

15. (a) : Distance covered by Amit $= 5 + (-8)$
$= -3$ km

16. (a)

17. (b)

18. (a)

19. (a) : we have, $[(-2100) + (-2001)]$
=[-2100-2001]=-4101
Required number = -4101 - (-5308)
= -4101 + 5308 = 1207

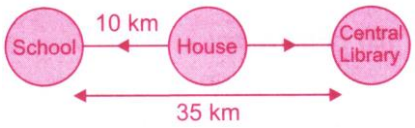
20. (a) : Since, -4 lies on the left side of (-1) on the number line.
$-4°C < -1°C$
$\therefore$ A is cooler than B.

21. (d) : Salary of Jatin = Rs. 12000
Total expenditure

= Rs. [1450 + 550 + 450 + 1500 + 5000]
= Rs. 8950
∴ Total savings = Rs. (12000 – 8950) = Rs. 3050

22. (a) : Number of correct answers given by Smriti = 5
Number of wrong answers given by her = 7
∴ Her score $= 4 \times 5 + ((-2) \times 7)$
$= 20 - 14 = 6$

23. (b) :



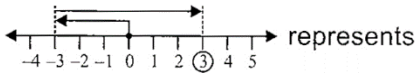
Distance between the house and the central library $= (35 - 10)\ km = 25km$

24. (c) : Total amount deposited = Rs. 45
Total amount withdrew = Rs. 117 + Rs. 69
= Rs. 186
∴ Amount left in his account
= 125 + 45 – 186 = 170 – 186 = Rs. (– 16)

25. (a) : Temperature at 8 p.m.=2°C
Temperature at midnight =-3°C
∴ Decrease in temperature=(2-(-3))°C
=(2+3)°C=5°C

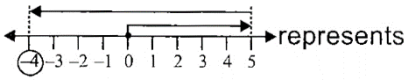
26. (a) : (i) Additive identity of the integers is 0.
(ii) 8 less than -24 = -24 - 8 = -32
(iii) Every integer less than zero is negative.

27. (b) : (i)



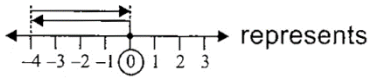
$0 - 3 + 6$ *i.e.*, $-3 + 6$

(ii)



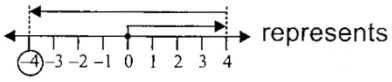
$0 + 5 - 9$ *i.e.*, $5 - 9$

(iii)



$0 - 4 + 4$ *i.e.*, $-4 + 4$

(iv)



$0 + 4 - 8$ *i.e.*, $4 - 8$ *e*

28. (d) : – 3 > – 5, since – 5 lies on the left side of – 3 in the number line.

29. (c)

30. (a) (i) The additive inverse of + 2 is – 2.
(ii) The greatest negative integer is – 1.
(iii) The smallest integer 0 is greater than every negative integer.
(iv) Predecessor and successor of 1 are 0 and 2 respectively.
∴ Sum = 2 + 0 = 2