

KEY POINTS -

- A whole number, from zero to positive or negative infinity is called Integers
- $Z = \{\dots, -2, -1, 0, 1, 2, \dots\}$
- The negative of any number is the additive inverse of that number.
- Zero is neither positive nor negative.
- Integer are said to be closed under addition and subtraction.
(i) $(+ A) \times (- B) = (- AB)$ (ii) $(- A) \times (+ B) = (- AB)$ (iii) $(- A) \times (- B) = (+ AB)$
- Distributive property of multiplication - $A \times (B+C) = (A \times B) + (A \times C)$

SINGLE OPTION CORRECT

1. Sum of two negative number is always
(A) Positive (B) Negative (C) 0 (D) 1
2. The pair of integers whose sum is - 5
(A) 1, - 4 (B) - 1, 6 (C) - 3, - 2 (D) 5, 0
3. Which of the following statement is false:
(A) $- 7 + (- 6) = - 13$ (B) $- 5 + 1 = 4$ (C) $2 + (- 1) = 1$ (D) $8 + (- 9) = - 1$
4. What integers or number should be added to - 5 to get 4
(A) 1 (B) -1 (C) - 9 (D) 9
5. 34.678 is a /an
(A) Integer number (B) Whole number (C) Rational number (D) Irrational number
6. What is the value of $0 - 1 + 2 - 3 + 4 - 5 + 6 - 7 \dots \dots - 27 + 28 - 29 + 30$
(A) 10 (B) 15 (C) 20 (D) -25
7. If $A = (-1) \times (-1) \times (-1) \dots \dots 100$ times and $B = (-1) \times (-1) \times (-1) \dots \dots 95$ times, then $A + B =$
(A) - 1 (B) - 2 (C) 0 (D) 1
8. Identify the property used in the following: $2 \times 13 + 8 \times 13 = (2 + 8) \times 13$
(A) Commutative (B) Closure (C) Associative (D) Distributive

9. Match the column

I	$9 - \{5 - 24 \div (8 + 6 \times 2 - 16)\}$	p	16
II	$(-3) \times (-12) \div (-4) + 3 \times 6$	q	10
III	$17 - \{8 \div (2 \times 3 - 4)\}$	r	9
IV	$5 \times 2 - [3 - \{5 - (7 + 2 \text{ of } 4 - 19)\}]$	s	13

(A) I - s, II - r, III - p, IV - q

(B) I - q, II - r, III - s, IV - p

(C) I - q, II - r, III - p, IV - s

(D) I - s, II - r, III - q, IV - p

10. What will be multiplicative inverse of - 8?

(A) 8

(B) 1/8

(C) - 1/8

(D) 0

11. $23 - [23 - \{23 - (23 - \overline{23 - 23})\}]$

(A) 0

(B) 2

(C) 1

(D) 23

12. If + 25^o C represents the rising temperature by 25^o C, then 25^o C fall in temperature represented by

(A) 0

(B) 25^o C

(C) - 25^o C

(D) 50^o C

13. Choose a pair of integer whose sum is 0 and difference is 12.

(A) 6, - 6

(B) 0, 12

(C) - 6, 6

(D) 12, 0

14. Product of two negative integers is always

(A) Always negative

(B) always positive

(C) Either positive or negative

(D) 0

15. Absolute value of - 11 is

(A) - 10

(B) 10

(C) 11

(D) 0

16. Closure property is observed with respect to operation in integers.

(A) +, X

(B) +, X, /

(C) +, X, -

(D) +, -, /

17. The sum of two integers is - 16. If one them is 20, then the other is:

(A) 36

(B) 4

(C) - 36

(D) none of these

18. What must be subtracted from - 3 to get - 9?

(A) - 6

(B) 12

(C) 6

(D) - 12

19. The value of $(-1)^{27} \times (-1)^{53} \times (-1)^4$ is
 (A) -1 (B) 1 (C) -1 or 1 (D) 2
20. The product of two integers is 12, if one integer is - 3 then the other one is:
 (A) + 4 (B) - 4 (C) 3 (D) - 3
21. Resolve the brackets and simplify: $(28 \div 2) \div (56 \div 8)$.
 (A) 1 (B) 4 (C) 3 (D) 2
22. For integers:
 (A) Addition is associative (B) Addition is commutative
 (C) Integer "0" is the identity under addition (D) All of the above
23. Identify the property used in the following: $2 \times 13 + 8 \times 13 = (2 + 8) \times 13$
 (A) Commutative (B) Closure (C) Associative (D) Distributive
24. $(-9) + 4(6 - \overline{8 + 4})$.
 (A) - 15 (B) - 33 (C) 10 (D) 33
25. The reciprocal of $1/9$ is:
 (A) - 9 (B) 9 (C) 1 (D) - 1
26. Write the value of:
 (i) $|18 - 8|$ (ii) $- |3 - 2|$
 (iii) $39 - [23 - \{29 - (17 - \overline{9 - 3})\}]$. (iv) $118 - [121 \div (11 \times 11) - (-4) - \{3 - \overline{9 - 2}\}]$.
27. Arrange the following integers in descending order:
 (i) -1, 10, 0, -3, 5, 99, -100 (ii) - 99, 54, 89, 70, -3, 0
28. Verify and name the property used:
 (i) $-110 \times (-237) = (-237) \times (-110)$ (ii) $(-35 \times 4) \times (-152) = -35 \times [4 \times (-152)]$
29. Fill in the blanks.
 (i) $3 + 2 + (-5) = \dots\dots\dots$ (ii) $5 - (-7) + (-2) = \dots\dots\dots$
 (iii) $-3 + (-2) - (5) = \dots\dots\dots$ (iv) $750 + \dots\dots = 0$
 (v) $312 + \dots\dots = 312$ (vi) $7 \times (-3) \times (-2) = \dots\dots\dots$
 (vii) $(-2) \times (-3) \times (-4) = \dots\dots\dots$ (viii) $5 \times 6 \times \dots\dots = -30$
 (ix) $30 \div \dots\dots = -6$ (x) $-42 \div \dots\dots = 21$

(xi) $301 \times 305 \times 307 = 307 \times \dots \times 305$

(xii) $7 \times [60 + 75] = 7 \times 60 + 7 \times \dots$

(xiii) $3 \times \dots = 3$

(xiv) $5 \div \dots = 1$

(xv) $0 \div 700 = \dots$

30. (a) Write a pair of negative integers whose difference is 7.

(b) Write a pair of positive integers whose difference is - 5.

MULTIPLE OPTIONS CORRECT

1. which of the following is true

(A) $0 \div 2 = 0$

(B) $- 25 \div - 5 = - 5$

(C) $12 \div 0 = 12$

(D) $- 4 \div - 1 = 4$

2. which of the following does not represent pair of integer (a, b) such that $a \div b = 2$

(A) (- 6, - 3)

(B) (- 2, -1)

(C) (10, - 5)

(D) (8, 4)

3. True statement for addition and subtraction on number line is

(A) To add positive integer, move to the right on number line

(B) To add a negative integer, move to the left on the number line

(C) To subtract a negative integer, move to the right on number line

(D) To subtract a positive integer, move to the right on the number line

4. which of the following pair of integers having 5 as a difference

(A) 10, 5

(B) 0, - 5

(C) - 5, 0

(D) 15, - 20

5. which list of integer is in order from least to greatest.

(A) - 42, - 44, 0, 34, 67

(B) - 42, - 39, - 4, 40, 89

(C) - 74, - 40, - 10, 39, 42

(D) - 4, - 39, 40, 42, - 44

6. which of the following statement is/are correct

(A) Division by zero is not defined

(B) 0 is an integer

(c) - 3 lies between - 4 and 4.

(D) the successor of $0 \times (- 52)$ is $1 \times - 52$

7. If a, b, c are integers, then true statement is

(A) $a > b$ then $a \div c > b \div c$, if c is a positive integer

(B) $a > b$ then $a \div c < b \div c$, if c is a negative integer

(C) $a > b$ then $a + c > b + c$, if c is a positive integer

(D) $a > b$ then $a - c > b + c$, if c is a -ve integer

8. Which of the following is correct.

(A) $- 12 > - 9$

(B) $- 12 + 9 < 0$

(C) $- 12 < - 9$

(D) $12 > - 9$

9. Which of the following is correct.
- (A) Multiplication of two integers with like signs is always positive.
(B) When a positive integer is divided by a negative integer, the quotient obtained is a negative integer.
(C) Product of odd numbers if times of negative integers is positive.
(D) All of these
10. True statement of distributive property
- (A) $-39 \times 99 = (-39 \times 100) + 39 \times 1$ (B) $-85 \times 43 + 43 \times -15 = 43 \times 100$
(C) $68 \times (-17) + (-68) \times 3 = -68 \times 20$ (D) $4275 \times -125 = (-4275 \times 100) - (4275 \times 25)$

SUBJECTIVE PROBLEMS

1. Use the sign $>$, $<$, $=$
- (i) $29 + (-18) - 15$ _____ $36 - (-15) + 28$ (ii) $-241 + 76 - 86$ _____ $-399 + 47 + 39$
(iii) $86 - 45 + 23$ _____ $-36 - (20) - (-18)$
2. The temperature at 12 noon was 1000 C above zero. If it decreases at the rate of 200 C per hour until midnight, at what time would the temperature be 800 C below zero? What would be the temperature at mid - night?
3. If X is the smallest five-digit number formed by all the digits 0, 3, 5, 7, 2 (using the digits once) and y is the greatest five-digit number formed by all the digits 0, 5, 7, 9, 1 (using the digits once). Then find Y-X.
4. A diver descends 20 feet in the water from the boat at the surface of a lake. He then rose 12 feet and descends another 18 feet. At this point what is his depth in water?
5. Subtract the quotient of $75000 \div 50$ from the product of -57×25 .
6. Suppose the sunset occurs at 7.15 pm on July 15 in Delhi and setting time of the sun decreases by 30 seconds every day. At what time will the sun set on August 4 in Delhi.
7. Simplify the following.
- (a) $2 \times 5 - [8 - \{11 + 30 \div (\overline{4 - 7 - 5})\}]$ (b) $222 - [1/3 \text{ of } \{42 + (\overline{56 - 8} + 9)\} + 108]$
8. Draw a number line which represents the $0 - 5 + 7$ and $0 - 2 - 8$.
9. an insect crawl up 5 cm every second on a 60 cm vertical rod and then falls down 2 cm over the next second. How many second will it take to climb the road?
10. In a class test of 20 questions, 5 marks are given for every correct answer ad (-2) marks for every incorrect answer. Jia attempts all questions but 13 of her answers are correct. If Jia give 15 correct answers, how much more marks she could get?

ANSWER KEY & SOLUTION

SINGLE OPTION CORRECT

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|--|--------------------------------------|-----------------------------|-------|
| 1. B | 2. C | 3. B | 4. D |
| 5. C | 6. B | 7. C | 8. D |
| 9. B | 10. C | 11. A | 12. C |
| 13. A | 14. B | 15. C | 16. C |
| 17. C | 18. C | 19. B | 20. B |
| 21. D | 22. D | 23. D | 24. B |
| 25. B | 26. (i) 10 (ii) -1 (iii) 34 (iv) 109 | | |
| 27. (i) 99, 10, 5, 0, -1, -3, -100 | | (ii) 89, 70, 54, 0, -3, -99 | |
| 28. (i) Commutative (ii) Associative | | | |
| 29. (i) 0 (ii) 10 (iii) -10 (iv) -750 (v) 0 (vi) 42 (vii) -24 (viii) -1 (ix) -5 (x) -2 (xi) 301 (xii) 75 (xiii) 1 (xiv) 5 (xv) 0 | | | |

MULTI OPTIONS CORRECT

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|------------|-------------|---------------|------------|
| 1. A, C, D | 2. A, B, D | 3. A, B, C | 4. A, B |
| 5. B, C | 6. B, C | 7. A, B, C, D | 8. A, B, D |
| 9. A, B | 10. A, C, D | | |

SUBJECTIVE

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|------------|----------------|-----------|--------------|
| 1. <, >, > | 2. 9 pm, -1400 | 3. 77153 | 4. -26 feet |
| 5. -75 | 6. 7.05 pm | 7. 22, 87 | 8. Drawing |
| 9. 40 | 10. 14 | 11. ₹12 | 12. Any case |
| 13. | 14. | 15. 125 | |