


Whole Numbers

MATHEMATICAL REASONING

1. The number 144 can be represented by 12×12 square grid. Which of the following can also be represented on a square grid?
 (a) 39 (b) 50
 (c) 70 (d) 81
2. The property satisfied by the division of whole numbers is ____.
 (a) Closure property
 (b) Commutative property
 (c) Associative property
 (d) None of these
3. $(25 \times 22) \times 25 = 25 \times (22 \times 25)$ is an example of ____ property.
 (a) Commutative (b) Associative
 (c) Closure (d) Distributive
4. Which of the following options will replace the '?'
 Place value of 3 in 6, 380, 942 ② Place value of 3 in 7, 389, 426.
 (a) > (b) <
 (c) = (d) None of these
5. Which of the following statements is NOT true?
 (a) Every whole number has a successor.
 (b) Every whole number has a predecessor.
 (c) 0 is the least whole number.
 (d) Every natural number is a whole number.
6. The successor of 100199 is
 (a) 100198 (b) 900109
 (c) 100200 (d) 100991
7. If a and b are two whole numbers, then commutative law is applicable on subtraction if and only if ____.
 (a) $a = b$ (b) $a \neq b$
 (c) $a > b$ (d) $a < b$
8. How many whole numbers are there between 25 and 82?
 (a) 56 (b) 57
 (c) 59 (d) 58
9. Which of the following set of numbers will make the number sentence true?
 $\underline{\hspace{1cm}} \div \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = 12$
 (a) (6, 8, 12)
 (b) (6, 8, 16)
 (c) (16, 8, 10)
 (d) (6, 8, 10)
10. Which of the following is NOT true?
 (a) $(7 + 8) + 9 = 7 + (8 + 9)$
 (b) $(7 \times 8) \times 9 = 7 \times (8 \times 9)$
 (c) $7 + 8 \times 9 = (7 + 8) \times (7 + 9)$
 (d) $7 \times (8 + 9) = (7 \times 8) + (7 \times 9)$
11. What does the given number line represent?

 (a) 2×8 (b) 2×4
 (c) $8 \div 2$ (d) $8 - 2$
12. Which of the following operations satisfies the associative law for whole numbers?
 (a) Subtraction and division
 (b) Subtraction and multiplication
 (c) Division and multiplication
 (d) Addition and multiplication
13. Every natural number is the successor of ____ number.
 (a) Whole
 (b) Natural
 (c) Integer
 (d) None of these
14. Additive identity of whole numbers is
 (a) 1 (b) 0
 (c) 2 (d) Both (a) and (b)

- 15.** Mihika makes 8 gift packs containing chocolates for Diwali. She puts 12 vanilla chocolates, 14 milk chocolates and 8 nut chocolates in each pack. With the help of which property, can you calculate the total number of chocolates in 8 packs?
 (a) Commutative property
 (b) Associative property
 (c) Distributive property
 (d) None of these
- 16.** When we multiply a whole number and the multiplicative identity of whole numbers, then we get ____.
 (a) The number itself
 (b) The multiplicative identity
 (c) 0
 (d) Negative of that number
- 17.** Which of the following statements is NOT true?
 (a) $0 + 0 = 0$
 (b) $0 - 0 = 0$
 (c) $0 \times 0 = 0$
 (d) $0 \div 0 = 0$
- 18.** In whole numbers, closure property is not satisfied with respect to operations ____.
 (a) $(+, -)$
 (b) $(+, \times)$
 (c) $(-, \times)$
 (d) $(-, -)$
- 19.** By using dot (.) patterns, which of the following numbers can be arranged in all the three ways namely a line, a triangle and a rectangle?
 (a) 9
 (b) 10
 (c) 11
 (d) 12
- 20.** Which of the following properties is not applicable on the subtraction of different whole numbers?
 (a) Closure property
 (b) Commutative property
 (c) Associative property
 (d) All of these

EVERYDAY MATHEMATICS

- 21.** A vendor supplies 105 litres of milk to a hotel in the morning and 85 litres of milk in the evening. If the milk costs Rs. 20 per litre, how much money is due to the vendor per day?
 (a) Rs. 3500
 (b) Rs. 4200
 (c) Rs. 3950
 (d) Rs. 3800
- 22.** Mohit got 85 marks in Mathematics, 75 marks in English and 84 marks in Science. Kapil got 82 marks in Mathematics, 84 marks in English and 88 marks in Science. What are their total marks?
 (a) 495
 (b) 490
 (c) 498
 (d) 500
- 23.** 95 oranges can be packed in one bag. How many bags will be required to pack 10165 oranges?
 (a) 107
 (b) 106
 (c) 105
 (d) 108
- 24.** There are 222 red balls in a basket. A boy takes out 6 red balls from it and replaces them by 12 white balls. He continues to do so, till all red balls are replaced by white balls. Then the number of white balls put in the basket is ____.
 (a) 333
 (b) 444
 (c) 345
 (d) 400
- 25.** Chinmay had Rs. 610000. He gave Rs. 87500 to Jyoti, Rs. 126380 to Javed and Rs. 350000 to John. How much money was left with him?
 (a) Rs. 46120
 (b) Rs. 45500
 (c) Rs. 46000
 (d) Rs. 46100

26. Match the following.
If a, b, c, are whole numbers, then

Column – I	Column – II
(i) $a + b = b + a$	(a) Distributivity of multiplication
(ii) $(a + b) + c = a + (b + c)$	(b) Commutativity under addition
(iii) $a \times (b + c) = a \times b + a \times c$	(c) Associativity of addition
	(d) Commutativity under multiplication

- (a) (i) \rightarrow (c); (ii) \rightarrow (d); (iii) \rightarrow (a)
 (b) (i) \rightarrow (b); (ii) \rightarrow (c); (iii) \rightarrow (d)
 (c) (i) \rightarrow (a); (ii) \rightarrow (b); (iii) \rightarrow (c)
 (d) (i) \rightarrow (b); (ii) \rightarrow (c); (iii) \rightarrow (a)

27. State 'T' for true and 'F' for false.
 I. If a whole number is divided by another whole number, which is greater than first one, then the quotient is not equal to zero.
 II. Sum of two whole numbers is always less than their product.
 III. Whole numbers are not closed under multiplication.

	I	II	III
(a)	T	T	T
(b)	T	F	F
(c)	T	T	F
(d)	F	T	T

28. Study the following statements.
Statement - 1: Addition and multiplication are commutative for whole numbers.
Statement - 2: Division of whole numbers is distributive over addition.
 Which of the following options hold?
 (a) Both Statement-1 and Statement-2 are true.
 (b) Statement-1 is true but Statement-2 is false.
 (c) Statement-1 is false but Statement-2 is true.
 (d) Both Statement-1 and Statement-2 are false.

29. Match the following.

Column – I	Column – II
(i) The smallest whole number is	(p) 6
(ii) The natural number that has no predecessor, is	(q) 0
(iii) When 2 is added 3 times, to the smallest whole number gives.	(r) 1

	(i)	(ii)	(iii)
(a)	p	r	q
(b)	r	q	p
(c)	q	p	r
(d)	q	r	p


30. Fill in the blanks.
 (i) The product of any two whole numbers is a ____ number.
 (ii) If a and b are any two whole numbers and $b < a$, then $a - b$ is a ____ number.
 (iii) The product of a whole number and zero is ____.
 (iv) The product of a whole number and one is ____.

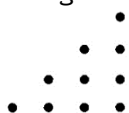
(i)	(ii)	(iii)	(iv)
(a) Whole	Integer	1	1
(b) Natural	Whole	1	1
(c) Whole	Whole	0	the number itself
(d) Natural	Integer	0	the number Itself

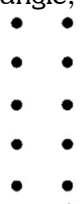
ANSWER KEY				
1. D	2. D	3. B	4. C	5. B
6. C	7. A	8. A	9. C	10. C
11. B	12. D	13. A	14. B	15. C
16. A	17. D	18. D	19. B	20. D
21. D	22. C	23. A	24. B	25. A
26. D	27. B	28. B	29. D	30. C


HINTS & EXPLANATIONS

1. (d) : We have, $81 = 9 \times 9$
So, 81 can be represented by 9×9 square grid.
2. (d)
3. (b)
4. (c) : Place value of 3 in 6,380,942 = 300,000
Place value of 3 in 7,389,426 = 300,000
5. (b) : 0 has not any predecessor,
6. (c) : The successor of 100199 = $100199 + 1$
= 100200
7. (a) : If $a = b$, then $a - b = a - a = 0$ and $b - a = a - a = 0$ i.e., $a - b = b - a$
8. (a)
9. (c) : (a) $6 \div 8 + 12 = 12.75$
(b) $6 \div 8 + 16 = 16.75$
(c) $16 \div 8 + 10 = 12$
(d) $6 \div 8 + 10 = 10.75$
10. (c) : $7 + 8 \times 9 = 7 + 72 = 79$,
 $(7 + 8) \times (7 + 9) = 15 \times 16 = 240$
And $79 \neq 240$
11. (b) : Number line represents $0 + 2 + 2 + 2 + 2$
i.e., 2×4
12. (d)
13. (a)
14. (b) : Additive identity of whole numbers is 0.
15. (c) : Total number of chocolates
= $8(12 + 14 + 8)$
or $12 \times 8 + 14 \times 8 + 8 \times 8$
= $8 \times (12 + 14 + 8)$

16. (a) : The product of the multiplicative identity of whole numbers i.e., 1 and a whole number we get the number itself.
17. (d) : $0 \div 0$ is not defined.
18. (d)
19. (b) : As we know that every number can be arranged as a line.
The number 10 can be shown as


Also, the number 10 can be shown as a triangle as given below:


And, the number 10 can also be shown as a rectangle, as given below:


Or


(2 rows and 5 columns)
(5 rows and 2 columns)
20. (d)
21. (d) : Quantity of milk supplied in the morning
= 105 L
Quantity of milk supplied in the evening
= 85 L
 \therefore Quantity of milk supplied in one day
= $105 + 85 = 190$ L
Cost of one litre milk = Rs. 20
 \therefore Cost of 190 L milk
= Rs. (20×190) = Rs. 3800
22. (c) : Total marks obtained by Mohit
= $85 + 75 + 84 = 244$
Total marks obtained by Kapil
= $82 + 84 + 88 = 254$
So, total marks obtained by both
= $244 + 254 = 498$
23. (a) : Number of oranges packed in 1 bag
= 95

\therefore Number of bags required to pack 10165 oranges

$$= \frac{10165}{95} = 107$$

- 24.** (b) : Let n be the number of steps.
 According to question, $222 - 6 \times n = 0$
 $\Rightarrow 6n = 222 \Rightarrow n = \frac{222}{6} = 37$
 Now, number of white balls added in one step = 12
 \therefore Number of white balls added in 37 steps
 $= 12 \times 37 = 444$
- 25.** (a)
- 26.** (d) : (i) $a + b = b + a$ is commutative property under addition.
 (ii) $(a + b) + c = a + (b + c)$ is associative property under addition,
 (iii) $a \times (b + c) = a \times b + a \times c$ is distributive property of multiplication over addition.
- 27.** (b)
- 28.** (b)
- 29.** (d) : (i) The smallest whole number is 0.
 (ii) The natural number that has no predecessor, is 1.
 (iii) $(2 + 2 + 2) + 0 = 6$
- 30.** (c)