



MATHS

BOOKS - HT Olympiad Previous Year Paper

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

Answer: D



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2. The property satisfied by the division of whole numbers is ____ .

- A. Closure property
- B. Commutative property
- C. Associative property
- D. None of these

Answer: D



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3. $(25 \times 22) \times 25 = 25 \times (22 \times 25)$ is an example of ___ property .

A. Commutative

B. Associative

C. Closure

D. Distributive

Answer: B



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4. Closure property is satisfied in whole numbers w.r.t. ___ and ___.

A. addition and subtraction

B. addition and division

C. addition and multiplication

D. multiplication and division

Answer: C



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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

.

Answer: B



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6. Every natural number is the successor of ____ number .

A. Whole

B. Natural

C. Integer

D. None of these

Answer: A



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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. $a < b$

Answer: A



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8. Which property states that the sum of any two whole numbers is always a whole number ?

A. Commutative

B. Closure

C. Associative

D. Additive

Answer: B



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9. Compare and fill the box .

$$795 \times 999 + 795 \square 887 \times 10 \times 461 - 361 \times 8870$$

A. >

B. <

C. =

D. Cannot be determined

Answer: B



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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. $7 + 8 \times 9 = (7 + 8) \times (7 + 9)$

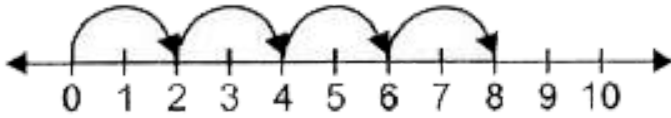
D. $7 \times (8 + 9) = (7 \times 8) + (7 \times 9)$

Answer: C



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11. What does the given number line represent ?



A. 2×8

B. 2×4

C. $8 \div 2$

D. $8 - 2$

Answer: B



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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

A. Subtraction and division

B. Subtraction and multiplication

C. Division and multiplication

D. Addition and multiplication

Answer: D



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13. The whole number which does not have a predecessor is ____ .

A. 9

B. 1

C. 0

D. 100

Answer: C



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14. Additive identify of whole numbers is _____ .

A. 1

B. 0

C. 2

D. Both (A) and (B)

Answer: B



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15. If $a = 35$, $b = 11$ and $c = 23$, then find $a \times (c - b)$.

A. 375

B. 495

C. 235

D. 420

Answer: D



16. When we multiply a whole number and the multiplicative identity of whole numbers, then we get _____.

- A. The number itself
- B. The multiplicative identify
- C. 0
- D. Negative of that number

Answer: A



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17. Which of the following statements is not true ?

A. $0 + 0 = 0$

B. $0 - 0 = 0$

C. $0 \times 0 = 0$

D. $0 \div 0 = 0$

Answer: D



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18. When a non - zero whole number is divided by itself, the quotient is :

A. 0

B. 1

C. the number itself

D. None of these

Answer: B



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19. By using dot (\cdot) 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

Answer: B



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20. Which of the following will not represent a whole number ?

A. $1 + 0$

B. 0×0

C. $\frac{1}{2 - 2}$

D. $\frac{0}{2}$

Answer: C



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Everyday Mathematics

1. 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 then how much money is due to the vendor per day ?

A. Rs. 3500

B. Rs. 4200

C. Rs. 3950

D. Rs. 3800

Answer: D



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2. 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

Answer: C



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3. A gardener has 389 saplings to be planted in 16 rows . How many saplings will he not be

able to plant if he can accommodate only 24
saplings in each of the 16 rows ?

A. 9

B. 5

C. 15

D. 12

Answer: B



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4. 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 until all the red balls are replaced by white balls. Determine the number of white balls put in the basket.

A. 333

B. 444

C. 345

D. 400

Answer: B



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5. 50 chairs and 15 blackboards were purchased for a school . If each chair costs Rs. 115 and a blackboard costs Rs. 345 then find the total amount of the bill .

A. Rs. 10925

B. Rs. 74740

C. Rs. 51750

D. Rs. 11940

Answer: A



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Achievers Section Hots

1. If a, b, c are whole number , then match the following

| Column-I | Column-II |
|--|--|
| (i) $a + b = b + a$ | (a) Distributivity of multiplication over addition |
| (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) to (c), (ii) to (d), (iii) to (a)

B. (i) to (b), (ii) to (c), (iii) to (d)

C. (i) to (a), (ii) to (b), (iii) to (c)

D. (i) to (b), (ii) to (c), (iii) to (a)

Answer: D



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

I. If a whole number is divided by another whole number which is greater than the 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 .

A. $\begin{matrix} I & II & III \\ T & T & T \end{matrix}$

- B. $I \quad II \quad III$
 $T \quad F \quad F$
- C. $I \quad II \quad III$
 $T \quad T \quad F$
- D. $I \quad II \quad III$
 $F \quad T \quad T$

Answer: B



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3. Study the following statements carefully and select the correct option .

Statement - 1 : Additive identity does not exist in natural numbers .

Statements - 2 : Sandeep distributes 4 boxes of sweets . If each box comprises 6 chocolates and 10 candies, then there are 64 sweets in 4 boxes .

A. Both Statements - 1 and Statement - 2 are true .

B. Statements - 1 is true but Statement - 2 is false .

C. Statements - 1 is false but Statement - 2 is true .

D. Both Statement - 1 and Statement - 2 are
false

Answer: A



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4. 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 |

- A. i ii iii
 p r q
- B. i ii iii
 r q p
- C. i ii iii
 q p r
- D. i ii iii
 q r p

Answer: D



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5. 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 _____ .

- A.

| | | | |
|----------|-----------|------------|-----------|
| <i>i</i> | <i>ii</i> | <i>iii</i> | <i>iv</i> |
| Whole | Integer | 1 | 1 |
- B.

| | | | |
|----------|-----------|------------|-----------|
| <i>i</i> | <i>ii</i> | <i>iii</i> | <i>iv</i> |
| Natural | Whole | 1 | 1 |
- C.

| | | | |
|----------|-----------|------------|-------------------|
| <i>i</i> | <i>ii</i> | <i>iii</i> | <i>iv</i> |
| Whole | Whole | 0 | the number itself |

D.

| | | | |
|----------|-----------|------------|-------------------|
| <i>i</i> | <i>ii</i> | <i>iii</i> | <i>iv</i> |
| Natural | Integer | 0 | the number itself |

Answer: C



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