

## Computation Operations

## Do You Know

What topics we will cover in this chapter?

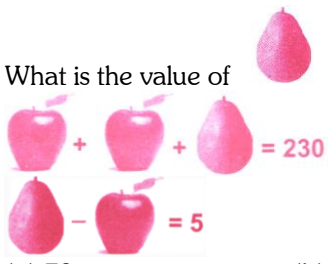
## Yes! The topics are:

- Addition, subtraction, multiplication and division
- Estimated sum, difference, multiplication and division by rounding off
- Sum, difference, multiplication and division of roman numbers
- Properties of sum, difference, product and division
- Factors and Multiples, Common factors and multiples
- Highest Common Factor (HCF) and Least Common Multiple (LCM)
- Prime factors of numbers
- Complex word problems, unitary method to solve

## MATHEMATICAL REASONING

1. Find the value of MMDCCCLX-MMDCCCLSL  
 (a) XCIX (b) LXII  
 (c) XC (d) CVII
2. Fathom is a unit once used by sailors to measure the depth of water, if a sunken ship was located underwater at 240 feet, which expression would describe the location of the ship in fathoms?  

1 fathom = 6 feet

  
 (a)  $240 \times 6$  (b)  $240 \div 6$   
 (c)  $240 - 6$  (d)  $240 + 6$
3. Which of the following options hold?  
 Statement-1: if 7 friends divide 76895 coloured beads amongst themselves, then each will get 10984 coloured beads.  
 Statement-2: If 16 families went on a trip and pay ₹ 216352 in total, then each family will pay ₹ 13522.  
 (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.
4. Which of the following is NOT true?  
 (a)  $959877 \times 0 = 0$   
 (b)  $959877 \times 1 = 959877$   
 (c)  $959877 \times 10 = 0$   
 (d) None of these
5. Which of the following options makes the given expression true?  
 $990064 + 420349 \quad \square \quad 912345 + 521935$   
 (a)  $>$  (b)  $<$   
 (c)  $=$  (d) Can't be determined
6. A factory produces 900640 tyres in the month of May. Out of these, 6782 tyres were found defective in the quality check. How many tyres were not defective?  
 (a) 893858 (b) 894008  
 (c) 786423 (d) 783858
7. What is the number in the START box?  
 $\boxed{\text{START}} \rightarrow \boxed{\div 16} \rightarrow \boxed{\times 20} \rightarrow \boxed{132820}$   
 (a) 116256 (b) 106256  
 (c) 384120 (d) 102656
8. Mohit baked 2000 cookies. He sold 600 of them and gave the rest equally to 20 of his friends. How many cookies did each of his friend receive?  
 (a) 18 (b) 70  
 (c) 80 (d) 1400
9. ★ is twice the difference between the 6<sup>th</sup> and the 10th multiple of 7. Find ★.  
 (a) 38 (b) 56  
 (c) 60 (d) 28
10. What is the value of ?  
  
 (a) 70 (b) 75  
 (c) 65 (d) 80
11. The product of 214 and a number is X. Taking 49 away from X gives 1449. Find the number.  
 (a) 7 (b) 9  
 (c) 1498 (d) 1640
12. The value of  $14 \times 7 + 36 \div 4 + 14 = \underline{\hspace{2cm}}$ .  
 (a) 98 (b) 135  
 (c) 121 (d) 224
13. Highest common factor of 42 and 162 is \_\_\_\_\_.  
 (a) 6 (b) 4  
 (c) 12 (d) 2

14. A contractor sent 7695940 bricks for the construction of 70 chambers. If an equal number of bricks were required for each chamber, how many bricks were used for each chamber?  
 (a) 99762 (b) 148762  
 (c) 59642 (d) 109942
15. Least common multiple of 8, 12 and 20 is  
 (a) 12 (b) 24  
 (c) 120 (d) 240
16. In a school, there are 704 desks to be placed in 22 classrooms. If the same number of desks are placed in each classroom, how many desks will be there in each room?  
 (a) 32 (b) 34  
 (c) 42 (d) 44
17. Subtract the sum of 7523625 and 2234374 from 61276343.  
 (a) 15518344 (b) 5518344  
 (c) 51518344 (d) 5158344
18. Which of these could be solved by using the sentence 'A - 5'?
- (a) Ishan is 5 times as old as Sanjit. If A is Sanjit's age in years, how old is Ishan?
- (b) Tarun is 5 years younger than Anny. If A is Anny's age in years, how old is Tarun?
- (c) Naman is one-fifth as old as Aman, If A is Naman's age, how old is Aman?
- (d) Geet is 5 years older than Suhana. If A is Suhana's age in years, how old is Geet?
19. The quotient when 222816 is divided by 24 is \_\_\_\_\_.  
 (a) 9286 (b) 9284  
 (c) 9248 (d) 2984
20. Maruti Motors produces 127695 cars in the year 2007; 98895 cars in the year 2008 and 305/89 cars in the year 2009. What was the total number of cars produced in three years altogether?  
 (a) 532379 (b) 502370  
 (c) 230759 (d) 533270
22. Farmer Gopal packed an equal number of oranges into each of the 15 baskets. If each basket contained 85 oranges, how many oranges did he pack?  
 (a) 100 (b) 1527  
 (c) 1275 (d) 1725
23. A company earned ₹ 5648000 in a year. If the total expenses were ₹ 474596, how much money was saved?  
 (a) ₹ 234467 (b) ₹ 6137007  
 (c) ₹ 5234728 (d) ₹ 5173404
24. A fruit seller had 69875 apples. He has to pack them in boxes, with each box containing 325 apples. Find the number of boxes required to pack all the apples  
 (a) 225 (b) 315  
 (c) 215 (d) 205
25. Each floor of a high rise building is fitted with 20 doors. There are 12 floors in each building. There are 25 such buildings in a complex. Calculate the total number of doors fitted in the complex.  
 (a) 2400 (b) 3000  
 (c) 6000 (d) 5000

### ACHIEVERS SECTION (HOTS)

26. Find  $Q + R - S + P$ .

$$\begin{array}{r}
 9\text{S} \\
 108 \overline{) 10695} \\
 \underline{- 902} \\
 97\text{R} \\
 \underline{- 972} \\
 \text{P}
 \end{array}$$

- (a) 9 (b) 2  
 (c) 4 (d) 6
27. A total of 18816 tiles were used for decorating the rooms, kitchen and bathrooms for all apartments in a building. Each apartment had 2 rooms, 1 kitchen, 2 bathrooms. The number of tiles used are given below: 1 Kitchen = 64 tiles, 1 Room = 84 tiles and 1 Bathroom = 52 tiles. How many apartments are there in the building?  
 (a) 86 (b) 94  
 (c) 56 (d) 65
28. Machine A can produce 7500 biscuits in a day, which is 240 fewer biscuits than what machine B can produce in a day. Now, 20 biscuits are placed in a pack. If both machines A and B are used, how many packs of biscuits will be there after 7 days?  
 (a) 5434 (b) 2335  
 (c) 4534 (d) 5334

### EVERYDAY MATHEMATICS

21. In a certain state, 5261989 students were enrolled in various schools. Of these, 1965233 students enrolled in primary school, 2006756 students enrolled in high school and the rest in middle school. How many students enrolled in middle school?  
 (a) 2005233 (b) 1290000  
 (c) 219000 (d) 1966756

29. Jimmy's balance in a bank on 1<sup>st</sup> November was ₹ 58709. He withdrew ₹ 13090 and ₹ 16518 from his account and deposits ₹ 1680 in his account in that month. What was the balance at the end of the month?
- (a) ₹ 30001 (b) ₹ 29101  
(c) ₹ 29001 (d) ₹ 30781

30. Complete the addition square by finding the missing numbers.  
Find (A - B) - (C - D).

+	10,923	8,473
18,732	A	B
9,018	C	D

- (a) 0 (b) 45  
(c) 1000 (d) 300

### ANSWER KEY

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

1. (d) : MMDCCCLX-MMDCCLIII  
= 2860 - 2753 = 107 = CVII
2. (b) : We have, 1 fathom = 6 feet  
1 feet =  $\frac{1}{6}$  fathom  
Ship was located underwater at 240 feet.  
∴ Location of ship underwater in fathoms  
= 240 - 6
3. (c) : **Statement-1** : If 7 friends divide 76895 beads, each friend will get (76895 ÷ 7) beads i.e., 10985 beads.  
So, statement-1 is false.  
**Statement-2**: Each family will pay ₹ (216352 - 16) = ₹ 13522  
So, statement-2 is true.
4. (c) : 959877 × 10 = 9598770
5. (b) : 990064 + 420349 = 1410413  
912345 + 521935 = 1434280  
∴ 1410413 < 1434280  
∴ 990064 + 420349 < 912345 + 521935
6. (a) : Total number of tyres produced  
= 900640

Number of defective tyres = 6782  
∴ Number of tyres which are not defective  
= 900640 - 6782 = 893858

7. (b) :  $\overline{106256} \div 16 = 6641$   
and  $6641 \times 20 = 132820$
8. (b) : Number of cookies baked = 2000  
Number of cookies sold = 600  
Remaining number of cookies  
= 2000 - 600 = 1400  
Number of friends = 20  
∴ Number of cookies each friend  
will receive =  $\frac{1400}{20} = 70$

9. (b) : 6<sup>th</sup> multiple of 7 = 42  
10th multiple of 7 = 70  
Now, ★ =  $2 \times (70 - 42) = 2 \times 28 = 56$

10. (d) :
- 
- Putting the value of (ii) in (i), we get
- $2(\text{Pear} - 5) + \text{Pear} = 230$   
 $\Rightarrow 2\text{Pear} - 10 + \text{Pear} = 230$   
 $\Rightarrow 3\text{Pear} = 230 + 10$   
 $\Rightarrow \text{Pear} = \frac{240}{3} = 80$

11. (a) : According to question, we have  
 $X - 49 = 1449 \Rightarrow X = 1449 + 49 = 1498$   
Now, required number =  $1498 \div 214 = 7$
12. (c) :  $14 \times 7 + 36 \div 4 + 4 = 14 \times 7 + 9 + 14$   
= 98 + 9 + 14 = 121
13. (a) :
- |   |    |
|---|----|
| 2 | 42 |
| 3 | 21 |
| 7 | 7  |
|   | 1  |

$$\therefore \text{H.C.F.} = 2 \times 3 = 6$$

14. (d) : Total number of bricks = 7695940  
Number of chambers = 70  
So, number of bricks used for each chamber  
=  $7695940 \div 70 = 109942$

15. (c):
- |   |           |
|---|-----------|
| 2 | 8, 12, 20 |
| 2 | 4, 6, 10  |
| 2 | 2, 3, 5   |
| 3 | 1, 3, 5   |
| 5 | 1, 1, 5   |
|   | 1, 1, 1   |
- $\therefore$  L.C.M. of 8, 12 and  
 $20 = 2 \times 2 \times 2 \times 3 \times 5 = 120$

16. (a) : Total number of desks = 704  
Number of classrooms = 22  
 $\therefore$  Number of desks in each classroom  
 $= \frac{704}{22} = 32$

17. (c) : Sum of 7523625 and 2234374  
=  $7523625 + 2234374 = 9757999$   
 $\therefore$  Required difference  
=  $61276343 - 9757999 = 1518344$

18. (b) : (A) Age of Ishan = 5A  
(b) Age of Tarun = A - 5  
(c) Age of Aman = 5A  
(d) Age of Geet = A + 5

19. (b) Not Available

20. (a) : Total number of cars produced In all three years  
=  $127695 + 98895 + 305789 = 532379$

21. (b) : Total number of students enrolled  
= 5261989  
Number of students enrolled in primary school and high school altogether  
=  $1965233 + 2006756 = 3971989$   
 $\therefore$  Number of students enrolled in middle school  
=  $5261989 - 3971989 = 1290000$

22. (c) : Total number of baskets = 15  
Number of oranges in each basket = 85  
Total number of oranges packed  
=  $15 \times 85 = 1275$

23. (d) : Total earning = ₹ 5648000  
Total expenses = ₹ 474596  
 $\therefore$  Total savings = ₹  $(5648000 - 474596)$

2	162
3	81
3	27
3	9
3	3
	1

= ₹ 5173404

24. (c) : Total number of  
69875  
Number of apples in 1 box = 325  
 $\therefore$  Number of boxes required  
=  $69875 \div 325 = 215$

25. (c) : Number of doors on 1 floor = 20  
Number of floors in 1 building = 12  
 $\therefore$  Number of doors in 1 building  
=  $20 \times 12 = 240$   
Number of buildings in 1 complex = 25  
 $\therefore$  Number of doors in 25 buildings  
=  $240 \times 25 = 6000$

26. (d) : We have,

$$\begin{array}{r} 99 \\ 108 \overline{) 10695} \\ \underline{-972} \phantom{5} \\ 975 \\ \underline{-972} \phantom{5} \\ 3 \end{array}$$

P=3, Q=7, R=5  
and S = 9  
Hence,  $Q + R - S + P$   
=  $7 + 5 - 9 + 3 = 6$

27. (c) : Total number of tiles used = 18816  
Number of tiles used in 1 apartment  
=  $2 \times 84 + 64 + 2 \times 52$   
=  $168 + 64 + 104 = 336$   
So, number of apartments in the building  
=  $18816 \div 336 = 56$

28. (d) : Number of biscuits machine A produce in 1 day = 7500  
 $\therefore$  Number of biscuits machine B produced in 1 day =  $7500 + 240 = 7740$   
So, total number of biscuits produced in 1 day by both machines A and B  
=  $7500 + 7740 = 15240$   
 $\therefore$  Number of biscuits produced in 7 days  
=  $15240 \times 7 = 106680$   
Now, number of biscuits in 1 pack = 20  
So, number of packs of biscuits  
=  $106680 \div 20 = 5334$

29. (d) : Amount of money in the account on 1st November = ₹ 58709  
Total amount of money withdrawn  
= ₹  $(13090 + 16518) = ₹ 29608$   
Amount of money deposited = ₹ 1680  
Balance left at the end of the month

$$= ₹ (58709 - 29608 + 1680)$$

$$= ₹ (60389 - 29608) = ₹ 30781$$

**30.** (a) : From the given table, we have

$$A = 18,732 + 10,923 = 29,655$$

$$B = 18,732 + 8,473 = 27,205$$

$$C = 10,923 + 9,018 = 19,941$$

$$\text{and } D = 9,018 + 8,473 = 17,491$$

$$\text{Now, } A - B = 29,655 - 27,205 = 2,450$$

$$C - D = 19,941 - 17,491 = 2,450$$

$$\therefore (A - B) - (C - D) = 2,450 - 2,450 = 0.$$