INDIAN SCHOOL AL WADI AL KABIR

Class VI, Mathematics ***Worksheet-PLAYING WITH NUMBERS***

14-08-2020 (ANSWERS)

OBJECTIVE TYPE (1 Mark)

Q.1.	The H.C.F of two coprime numbers is:							
	A		B	1	C		D	
Q.2.	An example of a perfect number is:							
	A	28	B		C		D	
Q.3.	The smallest odd composite number is:							
	A		B		*C*	9	D	
Q.4.	Which of the following pairs are co-prime?							
	A		B		C		D	211, 212
Q.5.	The L.C.M of 7 and 8 is :							
	A		B	56	C		D	
Q.6.	Find a number which is divisible by both 3 and 9 is:							
	A		B		C	57123	D	
Q.7.	A pair of twin primes are:							
	A	11,13	B		C		Q	
Q.8.	The maximum capacity of a container that can measure 60 litre and 75 litre exactly is :							
	A	15 litres	B		C		D	
Q.9.	4384 is not divisible by							
	A		B		C		D	3

Q.10	The prime factors of 126 are:							
	A		B	$2 \times 3 \times 3 \times 7$	C		D	

Fill in the blanks(1mark)

Q11. Fifth multiple of 17 is __________= 85

Q12. The number 2347850 is divisible by __2_____ , __5_____ and __10_____

Q13. The greatest factor of 85 is _________= 85

Q14. A number is divisible by 5 and 13 both. By which __65_____ number will that be always divisible.

Q15. The L.C.M of 12 and 24 is : _______24___

SECTION B (2 marks)

Q16. 4096

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     24
  4 | 96
      96
      --
       0
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Since remainder = 0 , 4096 is divisible by 4

(b) 251094

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     23
  4 | 94
      92
      --
       2
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Since remainder $\neq$ 0, 251094 is not divisible by 4

Q17. **H. C. F of 20, 60, and 108.**

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2 | 20      2 | 60      2 | 108
2 | 10      2 | 30      2 | 54
5 | 5       5 | 15      3 | 27
  | 1       3 | 3       3 | 9
              | 1       3 | 3
                          | 1
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20 = 2 × 2 × 5

60 = 2 × 2 × 5 × 3

108 = 2 × 2 × 3 × 3 × 3

H. C. F = 2 × 2 = 4

Q18.	L. C. M of 22, 14, and 110. 2 | 22 14 110 11 | 11 7 55 5 | 1 7 5 7 | 1 7 1 1 1 1 L. C. M = 2 × 11 × 5 × 7= 770
Q19.	Check the number 298704 is divisible by 6 or not, apply the rule of divisibility of 6. 298704 ⟶ One's place digit is 4 is an even no. So it is divisible by 2 2 + 9 + 8 + 7 + 0 + 4 = 30, is divisible by 3, so the given no. is divisible by 3 Since the number is divisible by both 2 and 3, therefore it is divisible by 6.
Q20.	Check the number 9020815 is divisible by 11 or not, apply the rule of divisibility of 11. 2 9 8 7 0 5 Sum of digits at even places = 5 + 7 + 9 = 21 Sum of digits at odd places from the right = 0+8 + 2 = 10 So, difference = 21 -10 = 11 (divisible by 11) Hence, it is divisible by 11
	SECTION C (4marks)
Q21.	Determine the least number which when divided by 3, 4, and 5 , leaves remainder 2 in each case. Firstly, we have to find the LCM of 3, 4 and 5.(all numbers are co-prime numbers) LCM of 3, 4 and 5 = 2 x2x3x 5= 60 Now, required number = LCM of 3, 4 and 5 + Remainder = 60 + 2=62 Hence, the required number is 62.
Q22.	Find the greatest number of four digits which is divisible by 15, 25, 40, and 75. 5 | 15 25 40 75 5 | 3 5 8 15 3 | 3 1 8 3 2 | 1 1 8 1 2 | 1 1 4 1 2 | 1 1 2 1 1 1 1 1 LCM = 5 × 5 × 3 × 2 × 2 × 2 = 600
Q23.	On a race track, racing car A complete the track in 28 minutes, while racing car B completes it in 24 minutes, after how many minutes will they be side by side again?
Q24.	A merchant has 120 L of oil one kind, 180 L of another kind and 240 L of a third kind. He wants to sell the oil by filling the three kinds of oil in tins of equal capacity. What should be the greatest capacity of such in tin?

Solution:

Here, the greatest capacity of tin will be equal to the HCF of 120,180 and 240.

2	120
2	60
2	30
3	15
5	5
	1

2	180
2	90
3	45
3	15
5	5
	1

2	240
2	120
2	60
2	30
3	15
5	5
	1

Prime factorization Of 120 = 2 ×2 × 2×3 × 5
Prime factorization Of 180 = 2×2 × 3 × 5 × 3
Prime factorization of 240 = 2 × 2 × 2 × 3 × 5 × 2
Thus, the HCF of 120,180 and 240 = 2 ×2 × 3×5 = 60

Greatest capacity of tin = HCF of 120,180 and 240 = 60 L

Q25. **Find the least number, which when divided by 25, 30 and 70 leaves a remainder 11.**

L C M of 25, 30 and 70

5	25	30	70
5	5	6	14
2	1	6	14
3	1	3	7
7	1	1	7
	1	1	1

L C M = 5 × 5 × 3 × 2 × 7 = 1050

Least number, which when divided by 25, 30 and 70 leaves a remainder 11

= LCM + remainder 11 =1050 + 11 = 1061