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**Whole Numbers**

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- Subtracting 1 from which digit in the number 12,345 will decrease the value of the number by 1,000?  
(A) 1    (B) 2    (C) 3    (D) 4    (E) 5
- Adding 3 to which digit in the number 736,124 will increase the value of the number by 30,000?  
(A) 7    (B) 3    (C) 6    (D) 2    (E) 4
- Adding 1 to each digit of the number 222,222 will increase the value of the number by how much?  
(A) 333,333    (B) 111,111    (C) 100,000    (D) 10    (E) 1
- $(1 \times 10,000) + (2 \times 1,000) + (3 \times 100) + (4 \times 10) + (5 \times 1) =$   
(A) 5,000    (B) 15,000    (C) 12,345    (D) 54,321    (E) 543,210
- $(1 \times 1) + (1 \times 10) + (1 \times 100) + (1 \times 1,000) + (1 \times 10,000) =$   
(A) 5    (B) 5,000    (C) 11,111    (D) 111,110    (E) 1,111,100
- $(1 \times 100,000) + (2 \times 10,000) + (3 \times 1,000) =$   
(A) 123    (B) 1,230    (C) 12,300    (D) 123,000    (E) 1,230,000
- $(2 \times 1,000) + (3 \times 100) + (1 \times 10,000) + (2 \times 10) + 1 =$   
(A) 11,223    (B) 12,132    (C) 12,321    (D) 23,121    (E) 32,121
- $(9 \times 10,000) + (9 \times 100) =$   
(A) 99    (B) 9,090    (C) 90,009    (D) 90,090    (E) 90,900
- $(2 \times 10,000) + (8 \times 1,000) + (4 \times 10) =$   
(A) 284    (B) 482    (C) 2,084    (D) 2,840    (E) 28,040
- What is the sum of 2 and 3?  
(A) 1    (B) 5    (C) 6    (D) 8    (E) 10
- What is the sum of 5, 7, and 8?  
(A) 12    (B) 15    (C) 20    (D) 25    (E) 28
- What is the sum of 20, 30, and 40?  
(A) 60    (B) 70    (C) 80    (D) 90    (E) 100

13. What is the difference between 8 and 3?  
(A) 24 (B) 11 (C) 8 (D) 5 (E) 3
14. What is the difference between 28 and 14?  
(A) 2 (B) 7 (C) 14 (D) 42 (E) 392
15. What is the product of 2 and 8?  
(A) 4 (B) 6 (C) 10 (D) 16 (E) 24
16. What is the product of 20 and 50?  
(A) 70 (B) 100 (C) 1,000 (D) 10,000 (E) 100,000
17. The product of 12 and 10 is  
(A) 2 (B) 22 (C) 120 (D) 240 (E) 300
18. What is the sum of  $(5+1)$  and  $(2+3)$ ?  
(A) 4 (B) 11 (C) 24 (D) 33 (E) 40
19. What is the difference between  $(5+2)$  and  $(3\times 2)$ ?  
(A) 0 (B) 1 (C) 3 (D) 10 (E) 14
20. What is the product of the sum of 2 and 3 and the sum of 3 and 4?  
(A) 6 (B) 12 (C) 35 (D) 48 (E) 72
21. What is the sum of the product of 2 and 3 and the product of 3 and 4?  
(A) 6 (B) 12 (C) 18 (D) 35 (E) 72
22. What is the difference between the product of 3 and 4 and the product of 2 and 3?  
(A) 2 (B) 3 (C) 6 (D) 12 (E) 36
23. What is the remainder when 12 is divided by 7?  
(A) 1 (B) 2 (C) 3 (D) 4 (E) 5
24. What is the remainder when 18 is divided by 2?  
(A) 0 (B) 1 (C) 3 (D) 6 (E) 9
25. What is the remainder when 50 is divided by 2?  
(A) 0 (B) 1 (C) 2 (D) 25 (E) 50
26. What is the remainder when 31 is divided by 8?  
(A) 0 (B) 1 (C) 4 (D) 7 (E) 89
27. What is the remainder when 15 is divided by 2?  
(A) 0 (B) 1 (C) 7 (D) 8 (E) 14

28. When both 8 and 13 are divided by a certain number, the remainder is 3. What is that number?  
 (A) 4 (B) 5 (C) 6 (D) 7 (E) 8
29. When both 33 and 37 are divided by a certain number, the remainder is 1. What is that number?  
 (A) 4 (B) 9 (C) 10 (D) 16 (E) 18
30. When both 12 and 19 are divided by a certain number, the remainder is 5. What is that number?  
 (A) 3 (B) 4 (C) 5 (D) 7 (E) 9
31.  $(4 \times 3) + 2 =$   
 (A) 6 (B) 9 (C) 12 (D) 14 (E) 17
32.  $(2 \times 3) \div (2 + 1) =$   
 (A) 0 (B) 1 (C) 2 (D) 3 (E) 6
33.  $[2 \times (12 \div 4)] + [6 \div (1 + 2)] =$   
 (A) 4 (B) 6 (C) 8 (D) 18 (E) 24
34.  $[(36 \div 12) \times (24 \div 3)] \div [(1 \times 3) - (18 \div 9)] =$   
 (A) 3 (B) 8 (C) 16 (D) 20 (E) 24
35.  $[(12 \times 3) - (3 \times 12)] + [(8 \div 2) \div 4] =$   
 (A) 0 (B) 1 (C) 4 (D) 8 (E) 16
36.  $(1 \times 2 \times 3 \times 4) - [(2 \times 3) + (3 \times 6)] =$   
 (A) 0 (B) 1 (C) 6 (D) 16 (E) 24
37. Which of the following statements is (are) true?  
 I.  $(4 + 3) - 6 = 4 + (6 - 2)$   
 II.  $3(4 + 5) = (3 \times 4) + (3 \times 5)$   
 III.  $(3 + 5) \times 4 = 4 \times (5 + 3)$   
 (A) I only (B) II only (C) III only (D) II and III only (E) I, II, and III
38.  $12 + 24 + 36 =$   
 (A)  $3 \times 12$  (B)  $12(1 + 2 + 3)$  (C)  $12(3 + 4 + 5)$   
 (D)  $6(2) + 6(3) + 6(4)$  (E)  $12 \times 24 \times 36$
39.  $25 + 50 + 100 =$   
 (A)  $5(1 + 2 + 3)$  (B)  $5(1 + 2 + 4)$  (C)  $25(1 + 2 + 3)$   
 (D)  $25(1 + 2 + 4)$  (E)  $25(1 + 5 + 10)$

40.  $\frac{99(121) - 99(120)}{33} =$   
(A) 1 (B) 3 (C) 33 (D) 99 (E) 120
41.  $1,234(96) - 1,234(48) =$   
(A)  $1,234 \times 48$  (B)  $1,234 \times 96$  (C)  $1,234(48 + 96)$   
(D)  $(1,234 \times 1,234) \times 48$  (E) 59,232
42. How many prime numbers are greater than 20 but less than 30?  
(A) 0 (B) 1 (C) 2 (D) 3 (E) 4
43. How many prime numbers are greater than 50 but less than 60?  
(A) 0 (B) 1 (C) 2 (D) 3 (E) 4
44. Which of the following numbers are prime numbers?  
I. 11  
II. 111  
III. 1,111  
(A) I only (B) II only (C) I and II only (D) I and III only (E) I, II, and III
45. Which of the following numbers are prime numbers?  
I. 12,345  
II. 999,999,999  
III. 1,000,000,002  
(A) I only (B) III only (C) I and II only (D) I, II, and III (E) None
46. What is the largest factor of both 25 and 40?  
(A) 5 (B) 8 (C) 10 (D) 15 (E) 25
47. What is the largest factor of both 6 and 9?  
(A) 1 (B) 3 (C) 6 (D) 9 (E) 12
48. What is the largest factor of both 12 and 18?  
(A) 6 (B) 24 (C) 36 (D) 48 (E) 216
49. What is the largest factor of 18, 24, and 36?  
(A) 6 (B) 9 (C) 12 (D) 15 (E) 18
50. What is the largest factor of 7, 14, and 21?  
(A) 1 (B) 7 (C) 14 (D) 21 (E) 35
51. What is the smallest multiple of both 5 and 2?  
(A) 7 (B) 10 (C) 20 (D) 30 (E) 40
52. What is the smallest multiple of both 12 and 18?  
(A) 36 (B) 48 (C) 72 (D) 128 (E) 216

53. Which of the following is (are) even?  
I. 12  
II. 36  
III. 101  
(A) I only (B) II only (C) I and II only (D) I and III only (E) I, II, and III
54. Which of the following is (are) odd?  
I.  $24 \times 31$   
II.  $22 \times 49$   
III.  $33 \times 101$   
(A) I only (B) II only (C) III only (D) I and III only (E) I, II, and III
55. Which of the following is (are) even?  
I.  $333,332 \times 333,333$   
II.  $999,999 + 101,101$   
III.  $22,221 \times 44,441$   
(A) I only (B) II only (C) I and II only (D) I and III only (E) I, II, and III
56. If  $n$  is an even number, all of the following must also be even EXCEPT  
(A)  $(n \times n) + n$  (B)  $n \times n - n$  (C)  $n + 2$  (D)  $3(n + 2)$  (E)  $\frac{n}{2}$
57. For any whole number  $n$ , which of the following must be odd?  
I.  $3(n + 1)$   
II.  $3n + 2n$   
III.  $2n - 1$   
(A) I only (B) II only (C) III only (D) I and II only (E) I, II, and III
58. If 8 is the third number in a series of three consecutive whole numbers, what is the first number in the series?  
(A) 0 (B) 1 (C) 6 (D) 7 (E) 12
59. If 15 is the fifth number in a series of five consecutive *odd* numbers, what is the *third* number in the series?  
(A) 5 (B) 7 (C) 9 (D) 11 (E) 13
60. If  $m$ ,  $n$ , and  $o$  are consecutive whole numbers that total 15, what is the largest of the three numbers?  
(A) 4 (B) 5 (C) 6 (D) 14 (E) 17