41- What should come in place of * mark in the following equation?
1*584 / 148 = 78

- **A.**1
- **B.**4
- **C.**6
- **D.**8
- **E.**None of these

Answer & Explanation
Answer - **A** (1)
Explanation - x/148 = 78

x = 78 x 148

42- A 3-digit number 4a3 is added to another 3-digit number 984 to give the four-digit number 13b7, which is divisible by 11. Then, (a + b) is:

- **A.**10
- **B.**11
- **C.**12
- **D.**15
- **E.**None of these

Answer & Explanation
Answer - **A** (10)
Explanation - 4 a 3 + 9 8 4 = 1 3 b 7

a + 8 = b

b - a = 8

Also, 13b7 is divisible by 11

(7 + 3) - (b + 1) = (9 - b)

(9 - b) = 0

b = 9

b = 9 and a = 1

$(a + b) = 10$

43- The largest natural number by which the product of three consecutive even natural numbers is always divisible, is:

- **A.**16

- **B.**24

- **C.**48

- **D.**96

- **E.**None of these

Answer & Explanation

Answer - **C** (48)

Explanation - Required number = (2 x 4 x 6) = 48

44- The least prime number is:

- **A.**0

- **B.**1

- **C.**2

- **D.**3

- **E.**None of these

Answer & Explanation

Answer - **C** (2)

Explanation - The least prime number is 2

45- A number when divided by 6 leaves a remainder 3. When the square of the same number is divided by 6, the remainder is:

- **A.**0

- **B.**1

- **C.**2

- **D.**3

- **E.**None of these

Answer & Explanation

Answer - **D** (3)

Explanation - Let $x = 6q + 3$. Then, $x^2 = (6q + 3)^2 = 36q^2 + 36q + 9 = 6(6q^2 + 6q + 1) + 3$.

So, when x^2 is divided by 6, remainder = 3

46- 12345679 x 72 is equal to :
- **A.**888888888
- **B.**898989898
- **C.**88888888
- **D.**89898989
- **E.**None of these

Answer & Explanation

Answer - **A** (888888888)
Explanation - 12345679 x 72 = 12345679 x (100 - 28) = 1234567900 - (12345679 x 28)

$$= 1234567900 - [12345679 \times (30 - 2)]$$

$$= 1234567900 - 370370370 + 24691358 = 888888888$$

47- What should be the maximum value of B in the following equation?
5A9 – 7B2 + 9C6 = 823
- **A.**5
- **B.**6
- **C.**7
- **D.**9
- **E.**None of these

Answer & Explanation

Answer - **C** (7)
Explanation - We may represent the given sum, as shown.

1 + A + C - B = 12

A + C - B = 11

Giving the maximum values to A and C, i.e.

A = 9 and C = 9, we get B = 7

48- The least number which must be subtracted from 6709 to make it exactly divisible by 9 is:

- **A.**2
- **B.**3
- **C.**4
- **D.**5
- **E.**None of these

Answer & Explanation
Answer - **C** (4)
Explanation - On dividing 6709 by 9, we get remainder = 4.

Required number to be subtracted = 4

49- The total number of even prime numbers is:

- **A.**0
- **B.**1
- **C.**2
- **D.**3
- **E.**None of these

Answer & Explanation
Answer - **B** (1)
Explanation - There is only one even prime number, namely 2