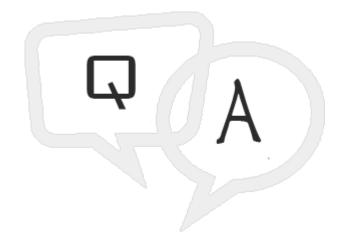
# Aptitude - Number System Online Quiz

Following quiz provides Multiple Choice Questions (MCQs) related to **Number System**. You will have to read all the given answers and click over the correct answer. If you are not sure about the answer then you can check the answer using **Show Answer** button. You can use **Next Quiz** button to check new set of questions in the quiz.



#### Q 1 - The unit digit in the product (636 x 924 x 368)?

A - 5

B - 7

C - 2

D - 1

Answer: C

# **Explanation**

Unit Digit = Unit Digit in (6 x 4 x 8) = 2

**Show Answer** 

#### Q 2 - The sum of first 25 natural numbers is?

A - 125

B - 325

C - 20

D - 750

#### Answer: B

# **Explanation**

$$S_n = (1 + 2 + 3 + 4 + ... + 25)$$

A.P -> a = 1, d = 1, n = 25 where n = terms

$$S_n = S_{25} = \frac{n}{2}[2a + (n-1)d]$$

$$= \frac{25}{2} [2 \times 1 + (25 - 1) \times 1]$$

 $= 25 \times 13$ 

= 325

Hide Answer

Q 3 - The difference of the squares of two consecutive even integers is divisible by which of the following integers?

A - 1

B - 5

C - 4

D - 2

#### Answer: C

### **Explanation**

Let the consecutive integers(even) be 2p and (2p + 2):

$$= (2p + 2)^2 - 2p^2 = (2p + 2 + 2p)(2p + 2 - 2p)$$

$$= 2(4p + 2)$$

$$= 4 (2p + 1)$$

Therefore, divisible by 4.

Hide Answer

Q 4 - It is being given that  $(2^{32})$  + 1) is completely divisible by a whole number. Which of the following numbers is completely divisible by this number?

A - 2<sup>16</sup> - 1

$$B - 2^{16} + 1$$

$$C - 2^{96} + 1$$

D - none of these

Answer: C

### **Explanation**

Let 
$$2^{32} = p$$
  
->  $(2^{32} + 1) = p + 1$ 

Let (p + 1) be completely divisible by natural number Z. Then->

$$(2^{96} + 1) = [(2^{32})^3 + 1]$$

As  $(p^3 + 1) = (p + 1)(p^2 - p + 1)$ , which is completely divisible by Z, since (p + 1) is completely divisible by Z.

Hide Answer

# Q 5 - How many three digit numbers are completely divisible by 6?

A - 95

B - 135

C - 110

D - 150

Answer: D

### **Explanation**

102, 108, 114...996 are three digit numbers divisible by 6 It can be seen that its an A.P with a= 102, d = 6 and I = 996 Let number of terms be n, therefore  $t_n$  = 996 996 = a + (n - 1)d 996 = 102 + (n - 1) x 6 n = 150 -> number of terms

Hide Answer

Q 6 - What is the unit digit in in  $3^{65}$  x  $6^{59}$  x  $7^{71}$  ?

A - 1

B - 2

C - 4

D - 6

#### Answer: C

## **Explanation**

 $3^{65} = (3^4)^6 \times 3$  So Unit digit in  $3^{65} =$  Unit digit in 1 x 3 = 3  $6^{59} = (6^4)^{14} \times 6^3$  So Unit digit in  $6^{59} =$  Unit d

Hide Answer

 $Q7 - (11^2 + 12^2 + 13^2 + ... + 20^2) = ?$ 

- A 385
- B 2485
- C 2870
- D 3235

#### Answer: B

## **Explanation**

Using formula for sum of squares of natural numbers  $(1^2 + 2^2 + 3^2 + ... + n^2) = (1/6)n(n+1)(2n+1)$   $(11^2 + 12^2)$ 

Hide Answer

Q 8 - 106 x 106 - 94 x 94 = y. What is y?

- A 2400
- B 2000

C - 1904

D - 1906

### **Answer: A**

## **Explanation**

$$y = 106 \times 106 - 94 \times 94 = (106)^{2^{-(94)^{2}}}$$

Hide Answer

### Q 9 - (a-b) divides a<sup>n</sup> - b<sup>n</sup> completely if?

A - n is a natural number.

B - n is an even natural number.

C - n is an odd natural number.

D - n is prime number.

#### Answer: A

### **Explanation**

(a-b) divides a<sup>n</sup> - b<sup>n</sup> completely for every natural number.

Hide Answer

Q 10 - What is the common factor in  $(47^{43} + 43^{43})$  and  $(47^{47} + 43^{47})$ 

A - 47-43

B - 47+43

 $C - 47^{43} + 43^{43}$ 

 $D - 47^{47} + 43^{47}$ 

#### Answer: B

## **Explanation**

 $a^n + b^n$  is divisible by a + b if n is an odd number.  $\therefore$  each number is divisible by (47 + 43).

**Show Answer**