SSC CGL & CHSL Quant Number System Asked Questions

Instructions
For the following questions answer them individually

Question 1

What is that least digit that must be added to the product 5786 × 5784 to make it a perfect square?

A 1

B 6

C 5

D 4

Answer: A

Explanation:
Expression : 5786 × 5784

= $(5785 + 1) \times (5785 - 1)$

Let $5785 = x$

=> $(x + 1)(x - 1) = x^2 - 1$

Clearly to make above term a perfect square, we need to add 1

=> $x^2 - 1 + 1 = x^2$

=> Ans - (A)

Question 2

Sum of four times a fraction and 7 times its reciprocal is 16. What is the fraction?

A 2/7

B 7/2

C 4/7

D 7/4

Answer: B

Explanation:
Let that fraction be $\frac{1}{x}$

$4(\frac{1}{x}) + 7x = 16$

$\Rightarrow (4 + 7x^2) = 16 \times x$

$\Rightarrow 7x^2 - 16x + 4 = 0$

$\Rightarrow (x - \frac{14}{7})(x - \frac{2}{7}) = 0$

$\Rightarrow (x - 2)(x - \frac{2}{7}) = 0$

$\Rightarrow x = 2 or 2/7$

$\Rightarrow \text{fraction} = \frac{1}{x} = 1/2 (or) 7/2$

so the answer is option B.

Question 3

Which of the following is NOT prime number?

A 251

B 571

C 331

D 341

Answer: D

Explanation:
Prime factors of 341 = 11 and 31

Hence, among the given numbers, **341** is not prime.

=> Ans - (D)

Question 4

If 169 is subtracted from the square of a number, then the result obtained is 7056. What is the number?

A 75

B 78

C 85

D 87

Answer: C

Explanation:
Let the number be x

According to ques,

=> $x^2 - 169 = 7056$

=> $x^2 = 7056 + 169 = 7225$

=> $x = \sqrt{7225} = 85$

=> Ans - (C)

Question 5

What is the remainder when 2468 is divided by 37?

A 26

B 36

C 18

D 14

Answer: A

Explanation:
37*66 = 2442 is the least nearest multiple of 37.

The remainder when 2468 is divided by 37 = 2468 - 2442 = 26

so the answer is option A.

Question 6

What is the average of all numbers between 8 and 74 which are divisible by 7?

A 40

B 41

C 42

D 43

Answer: C

Explanation:
The numbers between 8 and 74 which are divisible by 7 are 14, 21, 28, 35, 42, 49, 56, 63, 70.

sum = 378

average = 378/9 = 42.

SHORTCUT:

average = 7*(average of 2, 3, 4, 5, 6, 7, 8, 9, 10) = 7*(6) = 42.

so the answer is option C.

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Question 7

Sum of twice a fraction and its reciprocal is 17/6. What is the fraction?

A 4/3

B 5/4

C 3/4

D 4/5

Answer: C

Explanation:
Let that fraction be $\frac{1}{x}$

$2 \times \frac{1}{x} + x = \frac{17}{6}$

$\Rightarrow (2 + x^2) = \frac{17}{6} \times x$

$\Rightarrow 6x^2 - 17x + 12 = 0$

$\Rightarrow (x - \frac{8}{6})(x - \frac{9}{6}) = 0$

$\Rightarrow x = 4/3 or 3/2$

$\Rightarrow \text{fraction} = \frac{1}{x} = 3/4 (or) 2/3$

so the answer is option C.

Question 8

When a number is increased by 120, it becomes 130% of itself. What is the number?

A 400

B 520

C 460

D 580

Answer: A

Explanation:
$X + 120 = 1.3X$

$0.3X = 120$

$X = 400$

so the answer is option A.

Question 9

The sum of a fraction and 3 times its reciprocal is 19/4. What is the fraction?

A 3/4

B 4/3

C 5/4

D 4/5

Answer: A

Explanation:
Let that fraction be $\frac{1}{x}$

$\frac{1}{x} + 3x = \frac{19}{4}$

$\Rightarrow (1 + 3x^2) = \frac{19}{4} \times x$

$\Rightarrow 12x^2 - 19x + 4 = 0$

$\Rightarrow (x - \frac{16}{12})(x - \frac{3}{12}) = 0$

$\Rightarrow (x - \frac{4}{3})(x - \frac{1}{4}) = 0$

$\Rightarrow x = 4/3 or 1/4$

$\Rightarrow \text{fraction} = \frac{1}{x} = 3/4 (or) 4$

so the answer is option A.

Question 10

What least number must be added to 329, so that the sum is completely divisible by 7?

A 1

B 0

C 2

D 3

Answer: B

Explanation:
$\frac{329}{7} = 47$

no need to add any number as 329 is divisible by 7.

so the answer is option B.