

THE WINNING EDGE DEFENCE ACADEMY

SAINIK SCHOOL – 9th

1st – WEEKLY – TEST – ANSWER KEY

Instructions:

Attempt all questions.

Max. Marks - 100

Time – 1:00 Hour

SECTION – A: MATHEMATICS (7 X 4 = 28)

1. The four-digit number 6a25 divisible by 11, what is the value of a?

- a) 3 b) 5 c) 0 d) 2

Explanation:

The divisibility rule of 11 for four-digit number abcd is,

$$a + c = b + d$$

Calculation:

$$\Rightarrow 6 + 2 = a + 5$$

$$\Rightarrow a = 8 - 5$$

$$\Rightarrow a = 3$$

So, the four digit number is 6325.

2. By rationalising the denominator of $1/(5+\sqrt{7})$, we get _____

- a) $5-\sqrt{7} / 5+\sqrt{7}$ b) $5+\sqrt{7} / 18$ c) $5-\sqrt{7} / 18$ d) $5+\sqrt{7} / 5-\sqrt{7}$

Explanation:

When the denominator of an expression contains a term with a square root, the process of converting it to an equivalent expression whose denominator is a rational number is called rationalising the denominator.

By multiplying $1/(5+\sqrt{7})$ by $(5-\sqrt{7})$, we will get same expression since $5-\sqrt{7} / 5-\sqrt{7} = 1$.

Therefore,

$$\begin{aligned}1 / (5 + \sqrt{7}) &= 1 / (5 + \sqrt{7}) * (5 - \sqrt{7} / 5 - \sqrt{7}) \\&= 5 - \sqrt{7} / (5 * 5) - (\sqrt{7} * \sqrt{7}) \\&= 5 - \sqrt{7} / 25 - 7 \\&= 5 - \sqrt{7} / 18.\end{aligned}$$

3. In a division sum, the divisor is 10 times the quotient and 5 times the remainder. If the remainder is 46, then the dividend is

- a) 5336 b) 4236 c) 4336 d) 4306

Explanation:

$$\text{Divisor} = 5 \times \text{Remainder} = 5 \times 46 = 230$$

$$\text{Quotient} = 230 / 10 = 23$$

$$\therefore \text{Dividend} = \text{Divisor} \times \text{Quotient} + \text{Remainder}$$

$$= 230 \times 23 + 46$$

$$= 5290 + 46 = 5336$$

4. Which of the following is the unit digit in the product of 853 x 452 x 226 x 1346?

- a) 9 b) 6 c) 3 d) 8

Explanation:

Pick up the unit digit of each number and multiply them.

3 in 853

2 in 452

6 in 226

6 in 1346

$$\therefore 3 \times 6 \times 2 \times 6 = 216 \text{ (consider the unit digit in the product)}$$

So, the unit digit in the product of 853 * 1346 * 452 * 226 is 6.

5. What smallest number should be subtracted from 9805 so that it is divisible by 8?

- a) 3 b) 1 c) 6 d) 5

Explanation:

On dividing 9805 by 8, the remainder is 5. So, 5 is the smallest number which should be subtracted from 9805 to make it divisible by 8.

6. $7X2$ is a three-digit number in which X is a missing digit. If the number is divisible by 6, is then this smaller value of missing digit is -

- a) 7 b) 3 c) 4 d) 5

Explanation:

The given number is divisible by 6, so it would be divisible by 2 and 3. As the last digit is 2, whatever be the value of X , it would be divisible by 2.

Now, $7 + X + 2 = 9 + X$, must be divisible by 3.

So, $X = 3$ makes the number divisible by 3, so 3 is the required digit.

7. Suppose there is a number 'n'. When 'n' is divided by 5, the remainder will be 2. What will be the remainder when n^2 is divided by 5?

- a) 4 b) 2 c) 8 d) 5

Explanation:

According to the question when 'n' is divided by 5, we will get the remainder 2

$$n/5 = \text{remainder } 2$$

On putting $n = 7$, and on dividing it with 5 we will get remainder 2

$$\text{So, } n = 7, \text{ and } n^2 = 49$$

$$n^2/5 = 49/5 = \text{remainder } 4$$

SECTION – B: ENGLISH (6 X 4 = 24)

1. The chef of that restaurant cooks delicious food items. Here 'chef' is an example of –

- a) proper noun b) common noun c) collective noun d) abstract noun

Explanation: Here, 'chef' is an example of common noun.

2. February is the shortest month in the year. Here 'February' is an example of –

- a) proper noun b) collective noun c) abstract noun d) common noun

Explanation: Here, 'February' is an example of proper noun.

3. Choose the plural form of the given word.

Commander-in-chief

- a) Commander-in-chiefs b) Commanders-in-chiefs
c) **Commanders-in-chief** d) None of these

Explanation: The plural of 'Commander-in-chief' is 'Commanders-in-chief'.

4. Identify the type of noun that is highlighted in the sentence.

The swimming pool is drained and cleaned every winter.

- a) **Compound** b) Collective c) Abstract d) Proper

Explanation: Sometimes two or three nouns appear together, or even with other parts of speech, and create idiomatic compound nouns. Idiomatic means that those nouns behave as a unit and, to a lesser or greater degree, amount to more than the sum of their parts.

Example: mailbox, son-in-law, six-pack, football, etc.

5. Identify the segment of the sentence, which contains a grammatical error. If there is no error in the sentence, mark 'No error'

The police (A) / is becoming more (B) / and more inactive. (C) / No Error (D)

- a) **B** b) D c) C d) A

Explanation: Although 'police' appears singular, yet it is used in 'plural' sense. You do not need to add "s", "es" to make them plural. The correct sentence should be: The police are becoming more and more inactive.

6. Choose the most appropriate answer and fill in the blanks.

The noun form of 'Do' is _____.

- a) Does b) Done c) Did d) **Deed**

Explanation: The correct answer is Deed.

SECTION – C: GENERAL SCIENCE (7 X 4 = 28)

1. Who has become the first batsman to score a century in WTC final?

- a) Usman Khawaja b) Steve Smith c) Travis Head d) Rohit Sharma

Explanation: Australia's star batsman Travis Head has become the first cricketer to score a century in the WTC final. Head completed his century facing 106 balls on the first day of India's WTC 2023 final. Earlier, the highest score in the WTC final was in the name of New Zealand's Devon Conway who scored 54 (153) against India in the WTC 2021 final.

2. When is World Oceans Day celebrated annually?

- a) June 06 b) June 07 c) June 08 d) June 09

Explanation: World Oceans Day is celebrated every year on 8 June to create awareness among people about the importance of oceans and the importance of conserving marine resources. The celebration of this day started from the year 2008. It was proposed by the Oceans Institute of Canada and the International Center for Development of Canada to celebrate this day. The theme for World Oceans Day 2023 is "Planet Ocean: The Tides Are Changing".

3. Animal cells are interconnected by _____

- a) Desmosomes b) Plasma membrane c) Cell wall d) Plasmodesmata

Explanation: Desmosomes are the structure by which adjacent cells are attached and formed from the protein plaques in cell membranes linked by the filaments.

4. The rRNA is synthesized by _____

- a) Golgi body b) Nucleolus c) Nucleus d) Cytoplasm

Explanation: A nucleolus is the small dense spherical structure in the cell nucleus. It acts as a site for active rRNA synthesis. Rough ER (absence of ribosomes)- helps in the synthesis of proteins.

5. The cell theory is not applicable to-

- a) Fungi b) Microbes c) Virus d) Algae

Explanation: Viruses are considered neither living nor non-living. The cell structure is not present in the viruses, and do not use cells in their reproduction. Thus, cell theory is not applicable to viruses.

6. Who among the following introduced Ryotwari System in India?

- a) Lord Cornwallis b) Lord Wellesley c) Warren Hasting d) Thomas Munro

Explanation: Ryotwari System was introduced by Thomas Munro in 1820. Major areas of introduction include Madras, Bombay, parts of Assam and Coorgh provinces of British India.

7. Where was the Permanent Settlement firstly introduced?

- a) Orissa (Odisha) and Bengal b) Orissa (Odisha) and Andhra Pradesh
c) Bengal and Bihar d) Orissa (Odisha) and Bihar

Explanation: The Permanent Settlement was first introduced in Bengal and Bihar.

SECTION – D: INTELLIGENCE (5 X 4 = 20)

Choose the correct alternatives to form the same relationship.

1. Scissors : Cloth :: ?

- a) Stone : Grinder b) Gun : Hunt c) Knife : Stone d) Axe : Wood

Explanation: A pair of scissors is used to cut cloth. Similarly, axe is used to cut wood.

2. January : November :: Sunday : ?

- a) Tuesday b) Friday c) Saturday d) Monday

Explanation: January is the first month of a year and November is the second last month of a year. Similarly, Sunday is the first day of a week and Friday is the second last day of a week.

3. 149 : 238 :: 159 : ?

- a) 169 b) 248 c) 268 d) 261

Explanation: The relationship is $x : (x + 89)$.

As, 149: 149+89 = 149: 238.

Similarly, 159: 159+89

= 159: 248

4. 14 : 70

- a) 19 : 57 b) 80 : 480 c) 15 : 90 d) 75 : 375

Explanation: First number is multiplied by 5 to get second number.

As, $14 \times 5 = 70$

$75 \times 5 = 375$.

5. Mathematics is related to Numbers in the same way as History is related to?....

- a) Events b) People c) Dates d) Wars

Explanation: Mathematics is the subject deals with numbers and History is the subject deals with past events.

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