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Aptitude Tips and Tricks

Aptitude Tips and Tricks

1.Simplification

Definition:

Simplification is the process of replacing a mathematical expression by an equivalent one, that is simpler (usually shorter), for example. Simplification of a fraction to an irreducible fraction.

Rules of Simplification:

- Learn BODMAS.
- Use the concept of digital sum.
- Memorize tables up to 30.
- Memorize cubes and squares of numbers up to 35.
- Learn tricks to find squares and cubes of numbers greater than 35.
- Learn tricks to find cube roots and square roots of large number.
- Memorize the reciprocals.

BODMAS

V → Vinculum

B → Remove Brackets - in the order ( ) , { }, [ ]

O → Of

D → Division

M → Multiplication

A → Addition

S → Subtraction

Numbers which are given in a decimal format, use a rounded-off value for those numbers. For example, 45.62 can be taken as 46

Example based on BODMAS:

$152 \times 2^3 + (228 \div 19)^2 = ?$

Solution:

⇒ 15✕(12)2 [brackets are solved first and table of 19 and 15 must be on tips]

⇒ 120+144 [must know the squares]

⇒ 264

Finding Square Root:

Above 100:

$103^2 = 10609$

Step 1. Add the number to the ones digit:

103 + 3 = 106

Step 2. Square the ones digit number (if the result is a single digit put a 0 in front of it):

$3^2 = 09$

Step 3. Place the result from Step 2 next to the result from Step 1: 10609

Below 100:

$97^2 = 9409$

Step 1. Subtract the number from 100: 100- 97 = 3

Step 2. Subtract the number (from Step 1) from original number : 97-3 =94

Step 3. Square the result from Step 1 (if the result is a single digit put a 0 in front of it): $3^2 = 09$

Step 4. Place the result from Step 3 next to the result from Step 2: 9409

Below 50:

$48^2 = 2304$

Step 1. Subtract the number from 50: 50-48=2

Step 2. Subtract the result (from Step 1) from 25: 25-2 =23

Step 3. Square the result from Step 1 if the result is a single digit put a 0 in front of it) : 22 = 04

Step 4. Place the result from Step 3 next to the result from Step 2: 2304

Above 50:

$53^2 = 2809$

Step 1. Add 25 to the ones digit: 25 + 3 = 28

Step 2. Square the ones digit number (if the result is a single digit put a 0 in front of it) : $3^2 = 09$

Step 3. Place the result from Step 2 next to the result from Step 1 : 2809

Finding Cube Root:

Let us find the cube root of 39304 through a shortcut method involving four steps:

STEP 1: To find the unit place of the cube root always remember the following points:

- If the last digit of a cube root is 8 then the unit digit will be 2.
- If the last digit of a cube root is 2 then the unit digit will be 8.
- If the last digit of a cube root is 3 then the unit digit will be 7.
- If the last digit of a cube root is 7 then the unit digit will be 3.
- If the last digit of a cube root is other than 2, 3, 7 and 8 then put the same number as the unit digit.

Therefore, the unit digit will be 4.

STEP 2: Now, strike off the last 3 digits of the given number.

39304

STEP 3: Now, find the nearest cube of the first 2 digit from the left, i.e., 39.

The nearest cube is 27.

STEP 4: Now, 3 is the cube root of 27.

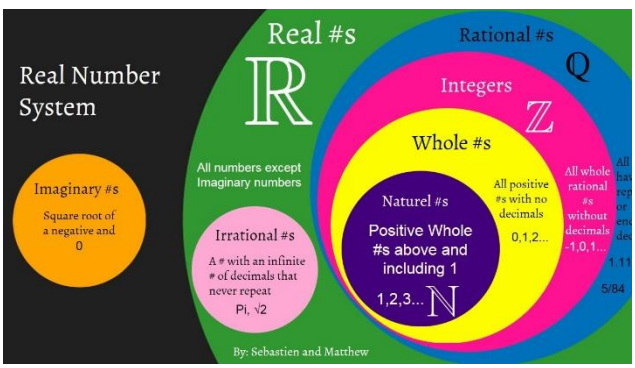
Therefore, the ten's place digit will be 3.

So, the answer will be 34.

2.Number System

Definition :

The number system or the numeral system is the system of naming or representing numbers. There are various types of number systems in maths like binary, decimal, etc.



(1) Natural Numbers: Numbers starting from 1, 2, 3 and so on so forth are counted as Natural numbers. They are **1, 2, 3, 4...**

Exceptions: Zero, negative and decimal numbers are not counted in this list.

(2) Whole numbers: Zero and all other natural numbers are known as natural numbers. They are **0, 1, 2, 3, 4...**

SAMPLE PDF - 2
Logical Reasoning Tips and Tricks

Logical Reasoning Tips and Tricks

1. ANALOGIES

What is Analogies?

Verbal analogies tests are standardized psychometric assessment tests (also used on SAT, GRE, and other professional exams) that provide the employing organization with information about a candidate's general verbal acuity and insight. Verbal analogy tests are designed to assess a candidate's ability to recognize relationships between ideas, think methodically and fluency in the English language. The questions in the test are designed to assess a candidate's logical and analytical reasoning through the use of partial analogies.

Several relationships between pairs of words are possible. For instance, expect relations such as:

- Antonyms: words that have opposite meanings.
- Synonyms: words that have similar meanings, such as Buy – Purchase.
- Descriptive: in which one word describes the other word, such as Blue – Ocean.
- Part to Whole: in which one word is a part or piece of the other, such as Head – Body.
- Steps in a Process: such as Cooking - Serving.

- Cause and Effect: such as Fire - Scorch and Blizzard - Freeze
- Things and Their Functions: such as Scissors - Cut.
- Item to Category: in which one-word names something that falls into the group named by the other, such as Lemonade – Beverage.
- Implied Relationships: such as Clouds – Sun.
- Symbol and what it Represents: such as Heart – Love.

Tips for solving Analogies

- The only way to become better at verbal analogies is through practice. Our verbal analogy tests are developed by professionals and provide you with full explanations.
- Try to determine the relationship between the first pair of words.
- Turn the analogies into sentences. Read the analogy problems as sentences, even if they aren't actually written that way.
- Go through tough problems systematically.
- Read all of the answer choices first before making a decision. This might sound obvious, but candidates commonly stop reading the answer choices once they've found what seems like a strong match.

- Eliminate any pairs in the answers that do not have a similar type of relationship.
- If the meaning of a word is unknown, then try to recollect the context in which you have come across the word.
- Also, consider alternative meanings of words.
- Take another look at the relationship possibilities as described above and try to look for them when trying to solve analogies.
- If all else fails, eliminate the unlikely answers and make an educated guess.

Example of a Verbal Analogies question.

SLANDER: DEFAME: SYCOPHANT:

The answer in the example above is "Flatterer". Slander and defame are synonym words referring to a false and defamatory statement or charge, sycophant and flatterer are synonym words used to describe someone who praises people.

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2. ARITHMETIC REASONING

What is Arithmetic Reasoning?

As mentioned above, Arithmetic Reasoning is all about solving logical reasoning questions by performing various mathematical operations. Some of the important chapters under arithmetic reasoning are Puzzle, Analogy, Series, Venn diagram, Cube and Dice, Inequality and so on. Let us now understand various types of arithmetic reasoning from below.

Types of Arithmetic Reasoning:

Let us see the various types of questions that may come in the Arithmetic Reasoning section one by one from below.

1. Puzzle

In this type of arithmetic reasoning, candidates need to analyze the given piece of information, pick the information that is important, and leave out the information that is not required in solving the given set of questions.

2. Analogy

In this type of arithmetic reasoning, candidates will need to find a word or paid words analogous to those given in the question.

3. Series

In this type of arithmetic reasoning, Candidates need to find the missing or wrong number in the provided series. There may be some questions where one of the terms in the given series will be incorrect, and candidates need to find out that term of the series by identifying the pattern involved in the formation of the series.

4. Inequality

In this type of arithmetic reasoning, candidates must know about various signs, which are used in such types of questions. The same is given below: