Victoria University of Bangladesh

Mid-Term Assessment

Fall Semester-2022

Basic Algebra — MAT 102

Submitted By

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Program Name : B.B.A

ID No : 1119470011

Course Code : MAT 102

Course title : Basic Algebra

Batch : 47

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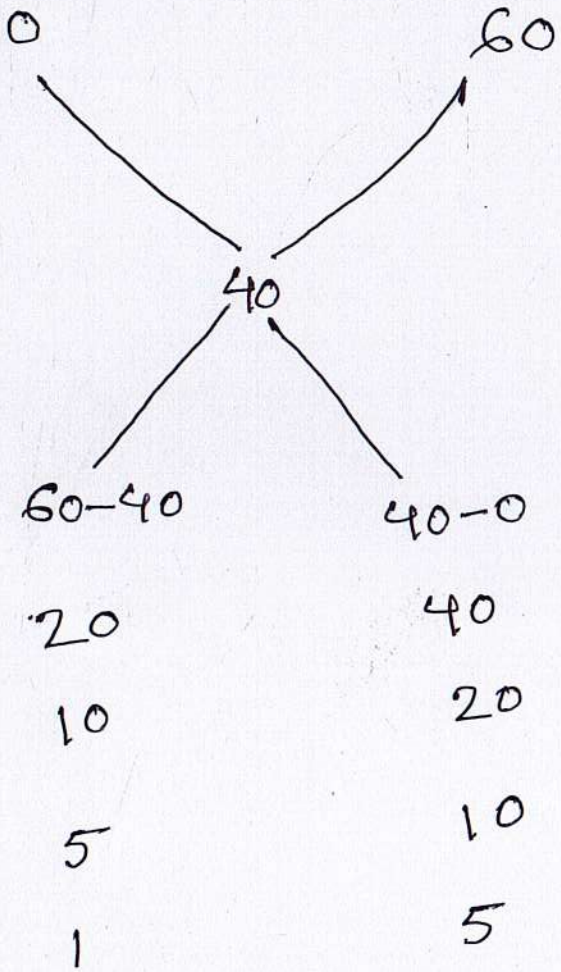
Answer to the question no-1

A Prime number is a whole number greater than 1 whose only factors are 1 and itself. A factor is a whole numbers that can be divided evenly into another the number.

Answer to the question no-2

C.P of water/Liter C.P. of milk/Liter



Ratio = (1:5) Ans/-

OR, Answer to the question-3 OR,

Discuss about permutation these are given below:- A permutation is an arrangement of objects in a definite order. The members or elements of sets are arranged here in a sequence or linear order. For example the permutation of set A={1,6} is 2 such as {1,6}, {6,1}. As you can see, there are other ways to arrange the elements of set A.

In Permutation, the elements should be the arranged in a particular order whereas in Combination the order of elements does not matter. Also read Permutation.

Basically permutation is an arrangement of objects in a particular way or order. while dealing with permutation one should concern about the selection as well as arrangement In short, ordering is very much essential in permutations. in other words, the Permutation is considered as an ordered combination.

Types of Permutation :- Permutation can be clarified in three different categories :-

(i) Permutation of n different objects.

(ii) Repetition, where repetition is allowed.

(iii) Permutation when the objects are not

(i) Permutation of n different objects :- If n is a positive integer and r is a whole number such that r<n then P(n,r) represents the number of all possible arrangements or permutations of n distinct objects taken r at a time. In the case of permutation without repetition, the number of available choices will be reduced each time.

(ii) Permutation where repetition is allowed :- we can easily calculate the permutation with repetition. The permutation with repetition of objects can be written using the exponent form. when the number of object is "n" and we have "r" to be the selection of object then.

(iii) Permutation when the objects are not distinct :- Permutation of n different objects when, P_1 objects among 'n' objects are similar P_2 objects of the second kinds are similar P_3 objects of the third kind are similar and so on, P_k objects of the kth kinds are similar and the remaining of all are of a different kind.

Answer to the question no-4

OR,

A set is the mathematical model for a collection of different things, a set contains to elements or members, which can be the mathematical objects of any kind; numbers, symbols, Points in space, lines, other to geometrical shapes, variables, or even other sets.

The elements of a set these are given below:- The objects used to form a set are called its element or it's members. Generally, the elements of a set are written inside a Pair of curly (idle) braces and are represented by commas. The name of the set is always written in capital letter.

An element of a set is usually denoted by a small letter, such as x, y, or z. A set may be described by listing all of its elements enclosed in braces. For example- if set A consists of the numbers 2, 4, 6 and 8, we may say $A = \{2, 4, 6, 8\}$

Elements are the objects contained in a set. A set may be defined by common Property amongst the objects. For example

Answer to the question no-5

Distance covered in passing the Platform

$= (160 + 160)$.

$= 320$ m

Time taken $= 16$ sec.

Speed of train $= \frac{320}{16}$

$= 20$ m/sec.

$= 20 \times \frac{18}{5}$

$= 72$ Km/hr.