

Q6

a The sum of three consecutive prime numbers is 159, find the number

$$\text{Solution} = \frac{159}{3} = 53$$

47, 53, 59 are the prime numbers
whose sum is 159.

(b)

Data

Radius of circle = 6cm

perimeter/circumference of circle = $2\pi r$

Solution

$$P/C_{\text{circle}} = 2\pi r \Rightarrow 2 \times 3.14 \times 6 \\ \Rightarrow 37.68 \text{ cm}$$

Q.6 (C)

3y ago ^{Data} av. ^{age} sum of man, wife and son = 27y

5y ago av. age of sum of wife and son = 20y

Man current age = ?

Solution

$\Rightarrow$ 3yrs ago the av. sum of ages (M, W, S) = $27 \times 3 = 81$

To find the total present age, add 3 years to each person

$$\text{Age(M, W, S)}_{\text{Av.}} = 81 + (3+3+3) = 81 + 9 = 90 \text{ years.} \rightarrow \text{eq. (i)}$$

$\Rightarrow$ 5yrs ago the ^{sum of} Av. ages (W & S) = $20 \times 5 = 40$ years

add 5yrs to each person age to find current age

$$\text{Age(W & S)}_{\text{Av.}} = 40 + (5+5) = 40 + 10 = 50 \text{ years} \rightarrow \text{eq. (ii)}$$

Now we find Man age from subtracting eq: (ii) from eq: (i)

$$\text{Man age} = 90 - 50 = 40$$

Man age = 40 year ——— current age.

Q.8

(1)

Data

Sum of three numbers = 98

$a:b = 2:3$; $b:c = 5:8$

2nd Num = ?

Solution

$$a + b + c = 98$$

1st we find LCM of Ratios $a: 10x + 15x + 24x = 98$

a b c

2 3 3

5 5 8

10 15 24

$$49x = 98$$

$$x = \frac{98}{49}$$

$$x = 2$$

Now

Now, Find 2nd Number

$$B = 15x \quad \because x = 2$$

$$B = 15 \times 2$$

$$B = 30$$

$$x + y = 23, \quad xy = 132$$

Q.8

(Q) Data

$$\text{Area} = 289 \text{ sq. Ft.}$$

price of fence per ft = Rs. 58

Total cost = ?

Solution;

$$\text{Area} = l^2 \Rightarrow 289 = l^2$$

= By giving square root both side

$$\sqrt{l^2} = \sqrt{289} = l = \sqrt{289} = 17 \text{ ft}$$

$$\text{length} = 17 \text{ ft}$$

now we find perimeter of square = $l \times 4$

$$P = 17 \times 4 = 68 \text{ ft}$$

$$\text{Total cost} = 68 \times 58$$

$$\boxed{\text{Total cost} = \text{Rs. } 3944}$$

⑥ Data

Av. Salary of 24 emp = 15000

manager salary is added av. salary

increase 4000 = 25 p av. salary = 19000

Solution

Manager Salary = Av. of 25 persons Salary +

'Av. of 24 person's Salary

$$= (19000 \times 25) - (15000 \times 24)$$

$$= \frac{47}{4} 5000 - 360000$$

Manager Salary = Rs. 15000

⑦

Data

% profit of Article by selling = 1920

% loss of Article is = 1280

price of Article at 25% profit selling =

Solution

$$\text{price of Art.} = 1920 - x = x - 1280 \Rightarrow 2x = 3200 \Rightarrow x = \frac{3200}{2} = 1600$$

price of Article is = Rs. 1600

$$\text{Selling price of Article at 25\% profit} \Rightarrow \frac{25 \times 1600}{100} = 400$$

$$\Rightarrow 1600 - 400 = 2000$$

Selling price of Article at 25% profit is Rs. 2000

Q.

Q.8 Introducing a boy, girl said, "He is the son of the daughter of the father of my uncle."

How is the son boy related to the girl.

B — M

G

1 2 3 4 5 6 7 8

Ans The boy is the Cousin of the girl.

Q.2

(a) MALNUTRITION:-

It refers to the deficiency, excessive or imbalance of essential needs/nutrients in the diet, which has adverse effects on health, growth and development.

MAJOR CAUSES

There are many causes that lead to malnutrition. Some of them are given below:

- (i) Food Insecurity: A lack of access to enough food due to poverty, low income, and natural disasters etc. leads to malnutrition.
- (ii) Poor Feeding Practices: Improper weaning foods or diets high in processed foods cause malnutrition.
- (iii) Disease and Infection: Due to chronic illness like HIV/AIDS, Tuberculosis that increases metabolic demands also cause malnutrition.

CONSEQUENCES

Malnutrition has many consequences, affecting health, development and economic stability.

- (i) It makes people tired and sick often.
- (ii) Pregnant women have unhealthy babies.

(iii) Babies become very skinny and bones show -

(iv) Some people eat too much and become over weight, getting diabetes and heart problems.

(b) DIFFERENCE BETWEEN FOOD CONTAMINATION AND ADULTERATION.

Food Contamination :

(i) It happens when harmful substances involve in the food ~~by~~ ^{by} accident

(ii) It causes by germs (like bacteria), chemicals (pesticides) or dirt/dust in the food

(iii) It affects quickly with vomiting, fever, or diarrhoea, etc.

~~(iv)~~

(i) It happens when bad things are added to food on purpose by cheating.

(ii) It does to attract the buyers purchase food or increase quantity cheaply.

(iii) It can lead slow poisoning, organ damage or diseases like cancer.

COMPUTER BUSES:

Computer buses are communication way that transfer data, signals, or power among/between betw different components of inside computers. There are three types of Buses.

- i) Data Bus - It carries data between CPU, memory and input/output devices.
- ii) Address Bus - It carries specific memory location for data transfer.
- iii) Control Bus - It manages synchronization and signals for read or write commands.

DIFFERENCE BETWEEN RAM AND ROM.

RAM	ROM
• It stands for Random Access Memory.	• It stands Read only Memory.
• It is temporary and volatile.	• It is permanent and non-volatile.
• It is faster used for active task.	• It may slower used for startup processes.
• It can Read and write.	• It can Read only.
• Example: DDR4	• Example BIOS chips.

Q.2 (d)

Geostationary Satellites:

These are artificial Satellites that orbit around the earth at fixed point.

These are widely used for Telecommunication like eg Satellite TV, weather forecasting etc.

Example: Metosat (Europe), PakSat-MMA (Pakistan)

NATURAL SATELLITES VS ARTIFICIAL SATELLITES

Natural Satellites:-

- These are celestial bodies that form naturally in space.
- They orbit around planet due to gravitational Force.
- These are rocky or icy bodies.
- Example: Lunar (Earth's moon), etc.

Artificial Satellites:

- They are human-made machines launched into space.
- They orbit around ~~sun~~ ^{Earth} or any other planets for specific purpose.
- They are built for specific purpose.
- Example: GPS (Global Positioning Satellite)
Hubble Telescope.

Jupiter has no any ~~p~~ artificial satellite, but it has naturally 95 satellites that are orbiting around Jupiter, discovered at different time.