Question # 6

(a):

$$\text{Mean/Average} = \frac{\text{Sum of observation}}{\text{Total no of observation}}$$

$$\text{Mean/Average} = \frac{9+8+10+k+12+15}{6}$$

$$\text{Mean} = \frac{54+k}{6}$$

$$-54+6 = k$$

$$-48 = k$$

$$\boxed{k = -48}$$

So, the value of k is -48.

(b) Soln:-

Sugar solution : Coloured water = 4 : 3

After adding 10 Litre Coloured water Solution become = 4 : 5

Sugar Solution : Coloured water = 4 : 5

Sugar solution = 4 litre

Coloured water = 5 litre

(c) Radius of football = 12cm
Volume of football = ?

Volume of football $= \frac{4}{3}\pi r^3$

$\pi = \frac{22}{7} = 3.14\ldots$

$= \frac{4}{3}(3.14)(12)^3$

$= \left(\frac{4}{3}\right)\left(\frac{22}{7}\right)(12)^3$

Volume $= 804.57 cm^3$

So, the volume of the football is $804.57 cm^3$.

(d) -10, -8, 6, 40, 102, ?

-16, -8, -6, 40, 102, 200

So the missing number is 200 which can be obtained or given numeric series obtained in 1st numeric series

1st number = 7 steps
" number = 11 steps
3rd number = 15 steps
four number = 19 steps

] -10 to -8

Question #18

(a) Charge = £20 + 4n

n = no. of window in house

n = 7 windows

Charge = £20 + 4(7)

Charge = £20 + 28

So, the brian charge would be £20+28.

(b) Jumble words:

(c) $(A \cup B)' = A' \cap B'$

$A = \{10, 11, 12, 13, 15\}$, $B = \{10, 12, 14\}$

$U = \{10, 11, 12, 13, 14, 15, 16, 18\}$

L.H.S $= (A \cup B)'$

$A \cup B = \{10, 11, 12, 13, 15\} \cup \{10, 12, 14\}$

$(A \cup B) = \{10, 11, 12, 13, 14, 15\}$

$U - (A \cup B) = \{10, 11, 12, 13, 14, 15, 16, 18\} - \{10, 11, 12, B, 14, 15\}$

$(A \cup B)' = \{16, 18\}$

R.H.S $= A' \cap B'$

$U - A = A' = \{10, 11, 12, 13, 14, 15, 16, 18\} -$
$\{10, 11, 12, 13, 15\}$

$A' = \{14, 16, 18\}$

$U - B = B' = \{10, 11, 12, 13, 14, 15, 16, 18\} -$
$\{10, 12, 14\}$

$B' = \{11, 13, 15, 16, 18\}$

$A' \cap B' = \{14, 16, 18\} \cap \{11, 13, 15, 16, 18\}$

$A' \cap B' = \{16, 18\}$

$R.H.S = A' \cap B' = \{16, 18\}$

Hence Proved

$L.H.S = R.H.S$

(d) Find the number of triangles in the given figure.

The given figure having 12 triangles.

Question #7 (a)

(a)

$20/100(x) = y$

$y\%$ of 20 in term of x

$y/100(20) = x$

$\frac{y}{5} = x$

$y = 5x$

So, the value is $y = 5x$.

Question #7(b)

(b). Soln:-

$$\frac{P+Q}{2} = 5050 \longrightarrow (i)$$

$$\frac{Q+R}{2} = 6250 \longrightarrow (ii)$$

$$\frac{P+R}{2} = 5200 \longrightarrow (iii)$$

So, equation (i) becomes

$$P+Q = 2(5050)$$

$$P+Q = 10100 \longrightarrow (4)$$

So, equation (ii) becomes

$$Q+R = 2(6250)$$

$$Q+R = 12500 \longrightarrow (5)$$

So, equation (iii) becomes

$$P+R = 10400 \longrightarrow (6)$$

Subtracting (4) from (6)

$$P + Q = 10100$$
$$\oplus\ P \oplus R = \oplus 10400$$

$$Q - R = -300$$

$$Q - R = -300 \rightarrow (7)$$

Subtracting (5) from (7)

$$Q + R = 12500$$
$$\oplus\ Q \ominus R = \ominus 300$$
$$2R = 12800$$

$$R = 6400 \text{ rupees}$$

Putting value of R in equ (6)

$$P + R = 10400$$

$$P + 6400 = 10400$$

$$P = 10400 - 6400$$

$$P = \text{Rs } 4000$$

So the value of P is Rs. 4000

Question # 7(c)

Soln:-

Two coins are tossed = 500 times

$$\text{Probability} = \frac{\text{No. of ways of occurrence of an event}}{\text{total number of outcomes}}$$

$$\text{prob(Event)} = \frac{\text{No. of ways of occurrence of event}}{\text{Total number of events}}$$

Two heads:

i) $\text{prob(two heads)} = \frac{105}{500}$

$$\text{prob(Two heads)} = \frac{1}{4}$$

Probability of two heads is $\frac{1}{4}$.

ii) one heads:

$$\text{prob(one head)} = \frac{275}{500}$$

$$\text{prob(One head)} = \frac{55}{100}$$

$$\text{prob(One head)} = \frac{11}{20}$$

No head : 120 times

$$\text{Prob(Event)} = \frac{\text{No. of ways of occurence of event}}{\text{Total no of outcomes}}$$

$$\text{prob(No head)} = \frac{120}{500}$$

$$= \frac{24}{100}$$

$$= \frac{12}{50} = \frac{6}{25}$$

$$\text{prob (No head)} = \frac{6}{25}$$

Question #7(d)

Let

(d): Jamie age $= x$

Jamie dad age $= y$

$$y = 4x$$

Jamie age $= x + 14$

Dad age After 14 years $= 2(x + 14)$

Jamie's dad age = $y = 4x$

Jamie's age = $x = x + 14$

Jamie dad = $y = 2(x + 14)$

$x = 4x$

$x + 14 = 2(x + 14)$

$x + 14 = 2x + 28$

$x - 2x = 14$

$x = 14$ years

jamie age now = 14 years

Jamie's dad age = $4(14)$ years

$= 56$ years

Sum of Jami and Jamie's dad = $(14 + 56)$ years

Sum of Jamie's and dad age = 70 years

Question #4(a)

Noise pollution: The unbearable sound which is unpleasant effect to our human ears is called noise pollution.

Example: Traffic, Heavy machinery sound, horn sound

Harmful effects:-

Noise pollution causes many consequences on human and environment.

1. It's directly damage to ~~our~~ human hearing system
2. It causes many diseases like depression and fussy short temperament which effects the human daily activity very badly.
3. Due to depression, no one perform proper in education and profession life.
4. Short Temperament are responsible for angryness.
5. Due to noise pollution people on individual as well as national level also disturb headache start and People public do not perform

properly due to which ~~our~~ state or government face many serious crisis in economy and other matters.

Ways to reduce noise pollution:-

=> The engineers must use sound absorbers in heavy machinery.
=> factories are settled away from the cities or population areas.
=> Drivers also use horn only where they need.
=> To enhance/promote public supports instead of own vehicles.

(b). Question (4b)

For Spending healthy life people should take care of their balance diet in which minerals, vitamins, lipids and proteins are available in proper quantity.

Question 4(c):

(c) Drinking water:

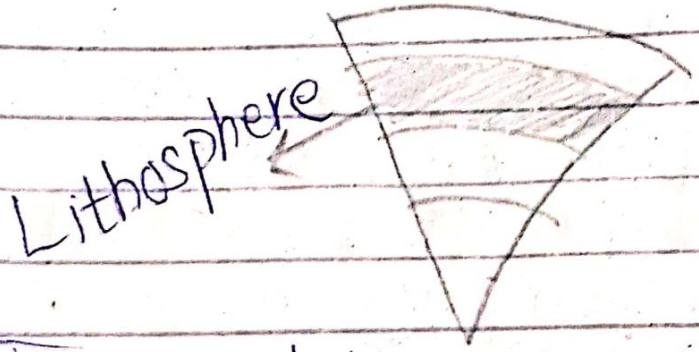
Water is the most essential feature for the survival of life
=> Drink water must be clean and fertile
=> People use water in a pure and good quality.

⇒ people boil water before use.

⇒ IF drinking water is not good quality it causes serious consequences on human health like hepatitis B and C, stomach disorder, motion, and so on.

Question 4(d)

Lithosphere is outer layer of earth which comprises liquid and solid.



These Lithosphere Contains rocks of different types and nature like igneous, metamorphic rocks.

Rocks: is a solid hard material which contains different kinds of minerals and stone.