

PRACTICAL

Serial No. 363991

BOARD OF INTERMEDIATE & SECONDARY EDUCATION,
SUKKUR, SINDH.

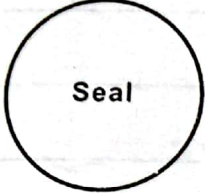


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Part - II

(Section - I)



Seal

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Answer 1-

Volcano

"Volcanoes are nature's
most violent disaster."

(The BBC - 2023)

When sudden rupture of
Earth's with dust, particles, smog etc
disturbs the nature formation, consider as
great volcanoes.

2- Volcano eruption on the 18th December
2023

"18th December 2023 marks
a sudden eruption of
volcano with small
earthquakes repetition."

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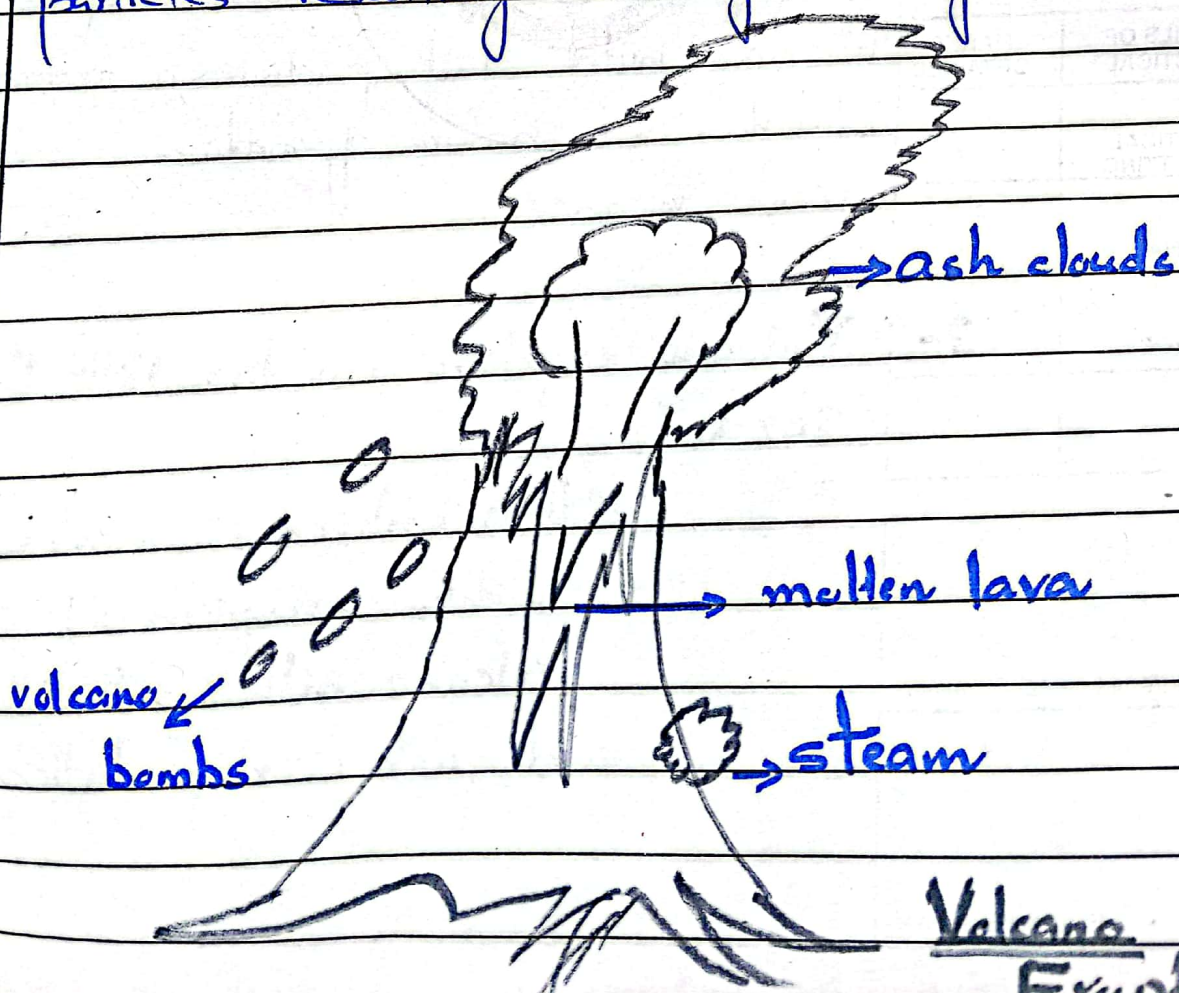
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On 18th December 2023, volcano was erupted in Iceland after a series of small earthquakes. This indicates that sudden volcano eruption damaging the nature.

3- Eruption of Volcano

When temperature and pressure become imbalance, it leads to volcano eruption.

When temperature increases, pressure decreases. It pushes the small particles inside the earth to erupt with hot violence. This results eruption of tiny hot particles resulting a huge damage.



Q:26

Answer:- Universe,

"Universe is a combination of stars, planets, moons etc."

The universe comprises a huge mass of stars, galaxies, moons etc.

"Study of the universe, called Cosmology."

2- Big Bang

"Big Bang is a theory of the universe."

Big Bang is a theory of the universe. The most accepted theory, which explains origin of the universe, it is called Big Bang.

3- Big Crunch

"Big Crunch can often be known as the universe itself."

When the universe began, it turned into small pieces of stars, called as big crunch. A dense, hot object began to expand,

and continued expanding. Resultantly, small pieces of galaxies, moons etc formed, collectively known as Big Crunch.

4-

Age of the universe

"The universe is about 13.8 billion years old."

(John Clover)

The universe is flat and composed of mass, which can be described as:

$$\text{Mass of the universe} = \frac{2}{3H}$$

Additionally, the density of the universe is very low as:

$$\text{Density of the universe} = \frac{1}{H}$$

Therefore, the age of the universe is as:

$$\frac{2}{3H} + \frac{1}{H}$$

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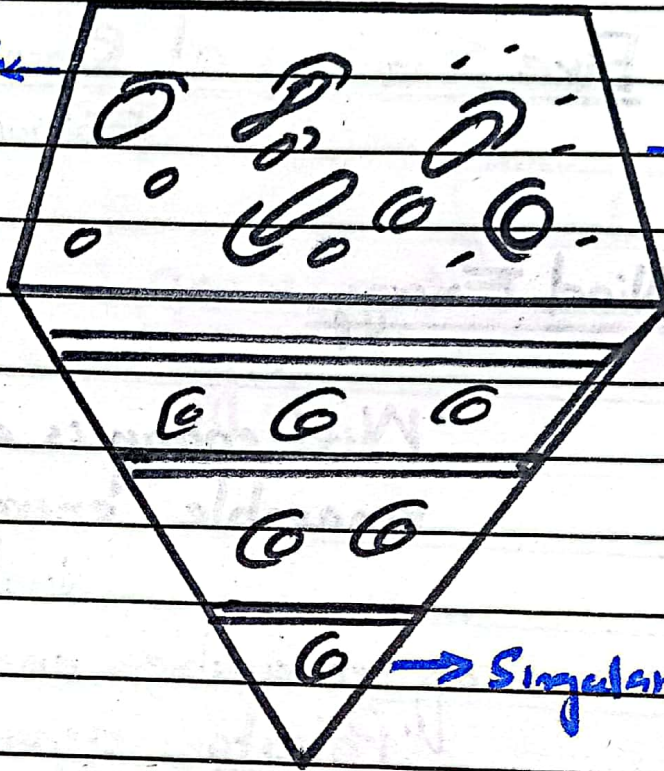
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Big Crunch



→ expansion

→ Singularity

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• The universe
(the universe expands, but the
size remains the same)

Q: 2C

Answer 1-

Renewable Energy

• Renewable energy is a sustainable form of energy.

(The World Bank)

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Renewable energy is a natural source of energy. In fact, it is a clean energy source. Thereby, renewable energy leads to sustainability of the nature.

2-

Five Sources of Renewable Energy

Following are five sources

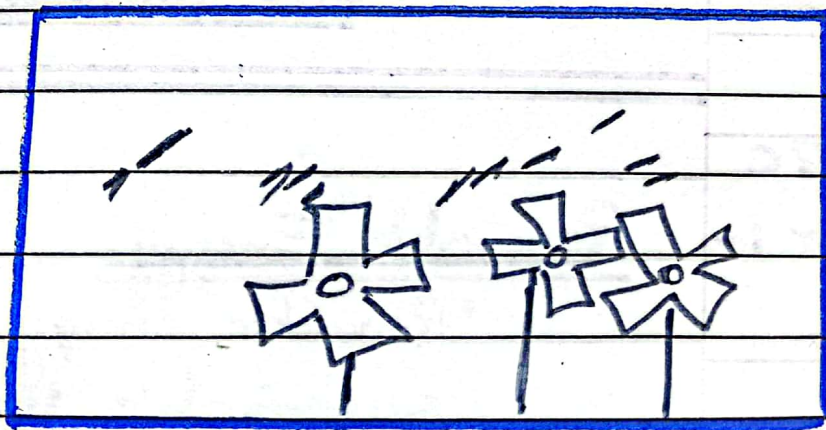
a)

Wind Energy

'Wind energy is a kinetic renewable energy.'

Wind energy is a chief source of renewable energy.

• Pakistan generates 1200 MW of wind energy from coastal areas of Sindh and Balochistan.



(-Wind energy)

b) **Solar Energy**

"Solar energy is also renewable energy."

Solar energy is also a source of renewable energy.

• Quaid-e-Azam solar power plant in Bahawalpur generates about 900 MW of energy."

c) **Hydal Energy**

"Hydal energy is a main type of renewable energy."

Hydal energy generation, such as dams are main types of renewable energy.

Source	Energy
Karrot	730 MW
Sukhi Khera	883 MW
Dam	4300 MW
Diamer Bshe	4500 MW

d)

Civil Nuclear Energy

"Nuclear energy is also a type of renewable energy sources."

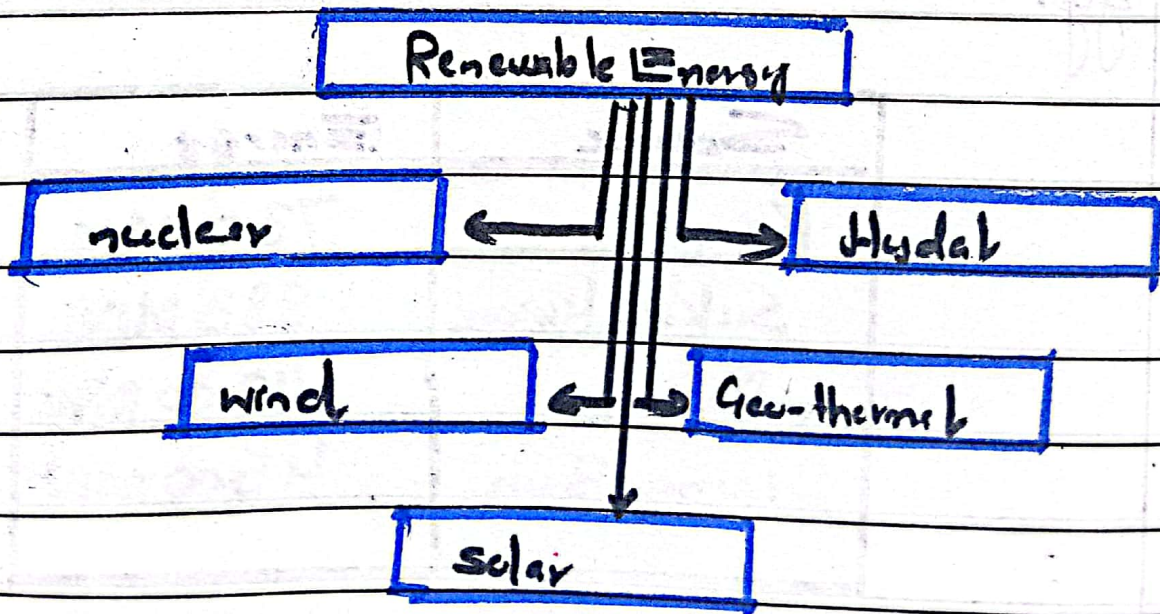
Nuclear energy projects are clean energy models of renewable energy sources.

e)

Geo-thermal energy

"Energy from the earth's centre generation is known as geo-thermal energy."

Geo-thermal energy is a renewable energy source. Pakistan has a great capacity of renewable energy generation via geo-thermal source.



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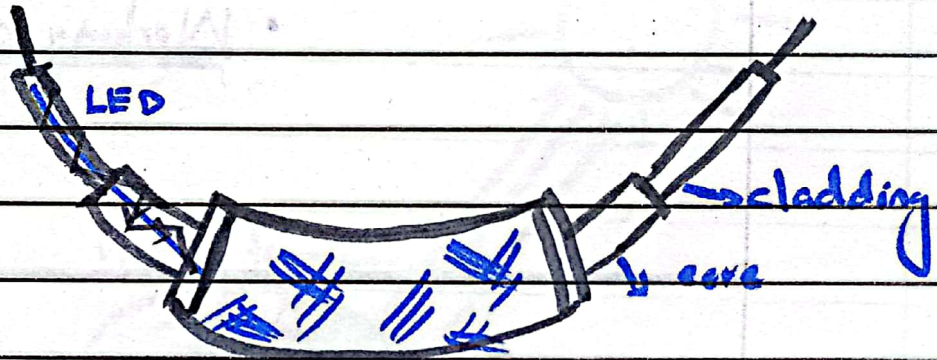
Q: 2 d
Answer 1-
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Optical Fibres

"Optical fibres are strands
of glass that help in
telecommunication."

Optical fibres are glass
strands. These help in transfer of light
rays for telecommunication purpose.



Optical Fibres

Working of Optical Fibres

Optical fibres work
at total internal reflection.

Optical fibres work
at principle of total internal reflection.

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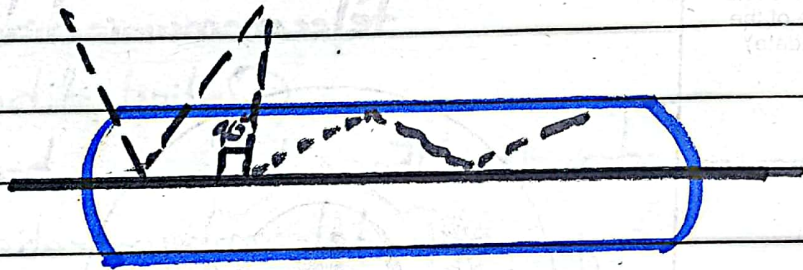
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i) Normal angle

Normal angle is when light rays pass through it.

ii) Angle of incidence

The angle at which internal angle and angle of reflection is equal to 90° .



• Working principle of Optical Fibre.

Q: 3a)

Answer 1-

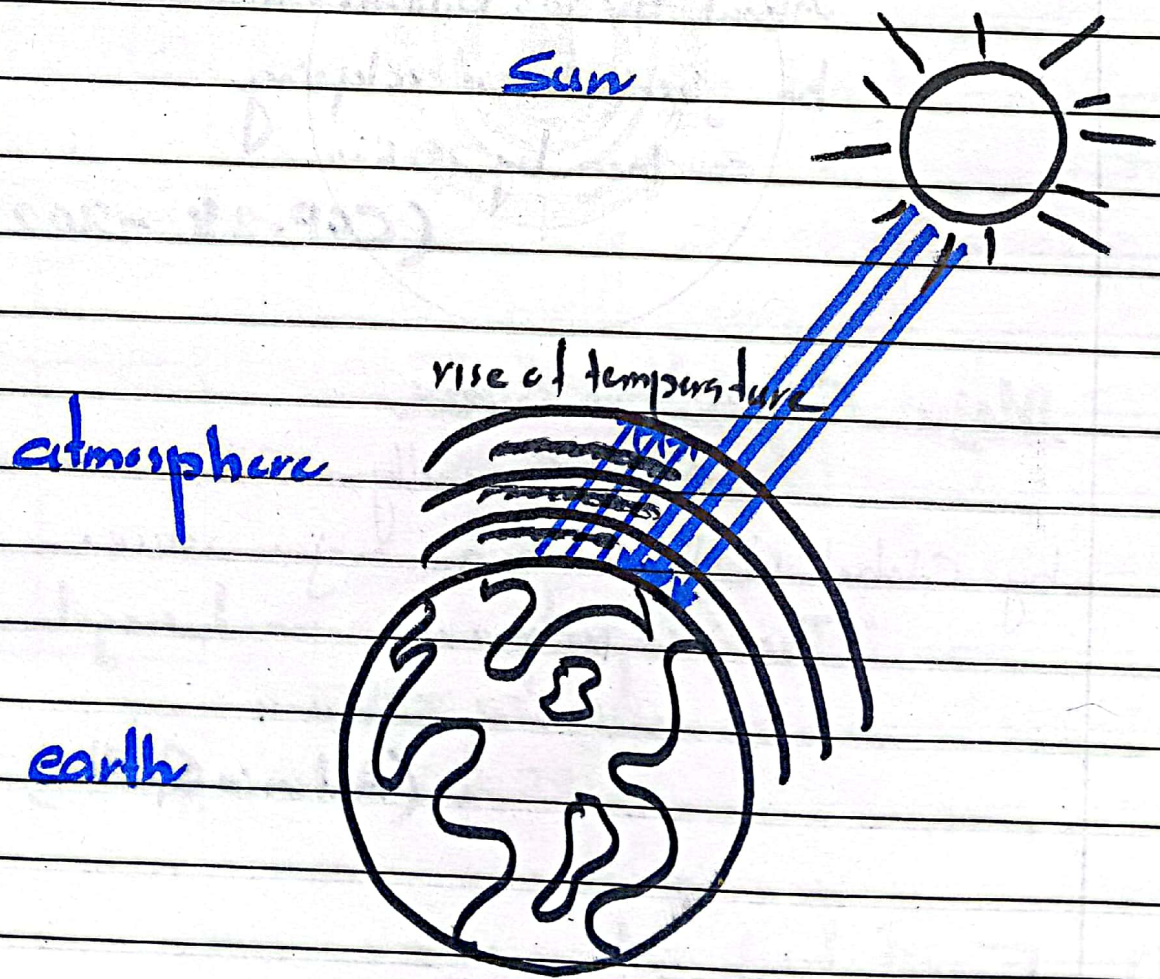
Global Warming

When the temperature of the atmosphere extends above its limitation -

called global warming.

(The IPCC 2020)

Global warming is a phenomenon in which the earth's temperature gradually increases. It warms the natural environment. Thereby, threatening the climate resilience.



Global Warming

2-

Hurdles in tackling global warming in developing countries - the COP-28

"The year 2023 was the hottest year."

(Asian Development Bank)

Following are hurdles:

i) Lack of financial commitment

Lack of financial commitment is a major issue.

"About \$500 billions will be given to developing countries by 2025."

(COP-28 - 2023)

ii) Major GHG emissions

Secondly, GHG emissions by Global North is a major issue.

"The super powers must regulate emissions of GHG."

(Antonio Guterres)

iii) Fossil fuel reliance

Dependency on fossil fuels

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is also a main issue.

"About 20 oil and gas
companies including Saudi
Aramco and Shell agreed
to reduce fossil
fuels by 2030."

(COP-28 - 2023)

ii) loss and damage fund

Additionally, loss and da-
mage fund per developing countries is
also a great issue.

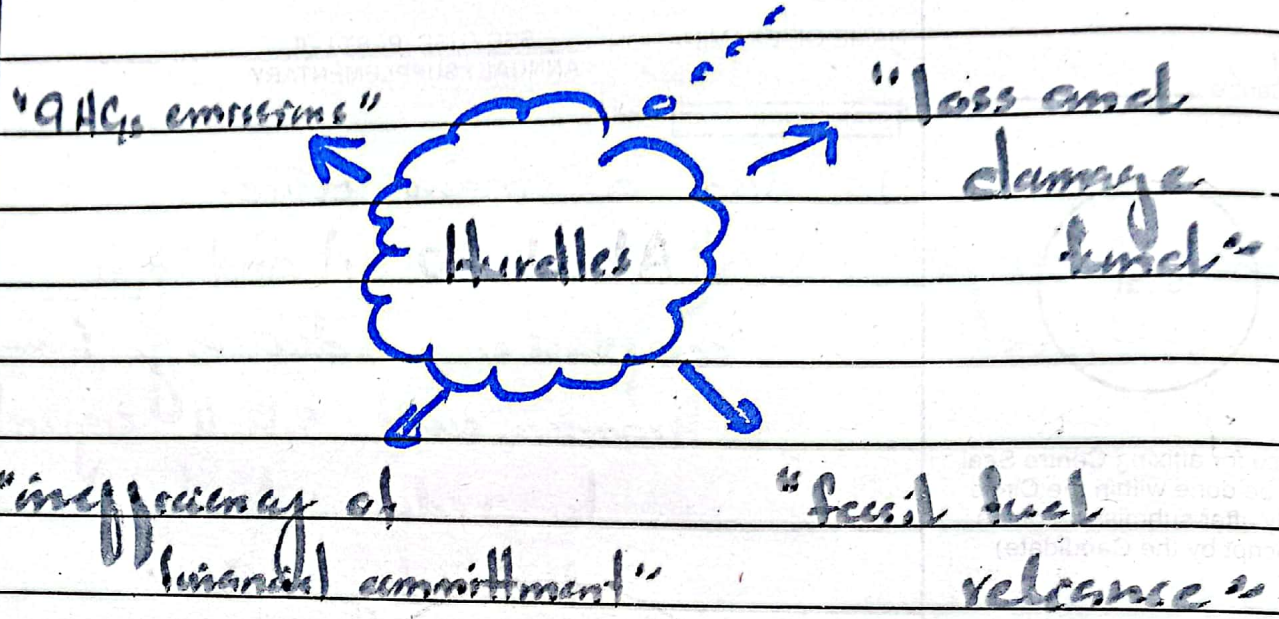
"The World Bank will
take responsibility of
funds about \$800 millions
for 4 years."

These are major issues discussed un-
der COP-28.

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Q: 3b

Answer 1-

Heart

"Heart is a circulatory organ."

Human heart is a main organ of blood circulation

(Section - II)

Q6 a)

Answer:-

Data

Candidate 1 = 15,000 votes

Candidate 2 = 10,000 votes

Candidate 3 = 8,000 votes

What is percentage of total voting of winning candidate?

2-

Solution

As per data, winning candidate percentage:

$$\text{percentage} = \frac{\text{Winning Candidate}}{\text{Total votes}} \times 100\%$$

$$= \frac{15,000}{33,000} \times 100\%$$

$$= 45.7\%$$

Thereby, percentage of total voting is 45.7% -

Q6 b)

Answer 1-

Data

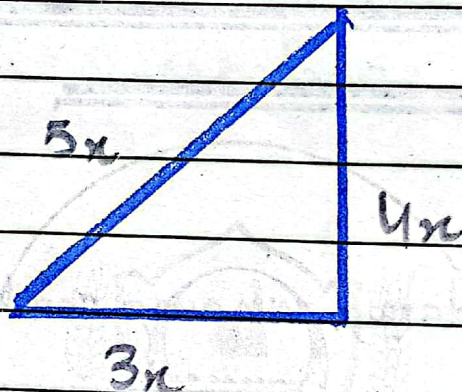
Ratio of angles of a triangle = 3:4:5

What is each angle?

2-

Solution

A right-angle triangle is as:



$$3x + 4x + 5x = 180^\circ$$

$$12x = 180$$

$$x = \frac{180}{12}$$

$$x = 15$$

So the angles are:

$$3x = 3 \times 15 = 45^\circ$$

$$4x = 4 \times 15 = 60^\circ$$

$$5x = 5 \times 15 = 75^\circ$$

✓ Answer.

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Answer 1-

Data

Each group = 4 boys and 6 girls
Total girls = 102

How many boys are required?

Solution

Each group = 4 boys + 6 girls

Total girls in making groups:
girls = $\frac{102}{6}$
= 17

Means, 17 girls' group -

Thus, boys required:

$$17 \times 4 = 68$$

Therefore, 68 boys are required to make equal groups.

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Q: 6d

Answer:- Data

Ratio of A and B ages = 6:7

After 5 years, ratio will be = 7:8

What's present ages of A and B?

2. - Solution

Present ratio :

$$\frac{A}{B} = \frac{6x}{7x}$$

After 5 years :

$$\frac{A}{B} = \frac{6x+5}{7x+5} = \frac{7}{8}$$

$$48x + 40 = 49x + 35$$

$$x = 5$$

Present ages of A and B:

$$A = 6x = 6 \times 5 = 30 \text{ years}$$

$$B = 7x = 7 \times 5 = 35 \text{ years}$$

So, the A's age is 30 years and B is: 35 years