Work on math portion
Write complete logic and steps
Draw diagrams
Increase length
Add headings

(General Science and Ability)

Section B

Q.No.5

a. The value of a washing machine depreciates at the rate of 10 percent every year. If its present value is Rs. 8748 than what was the price of washing machine three years age.

Number of years = 3
Rate of depreciation = 10%
Present value = 8748

$= Rs.\ 8748 \times \left(1 - \frac{10}{100}\right)^3$
$= Rs.\ 8748 \times (1 - 0.1)^3$
$= Rs.\ 8748 \times (0.9)^3$
$= Rs.\ 8748 \times 0.729$
$= Rs\ 6,377.292$

b. A father is four times the age of his daughter. If After 5 years, he would be three times of daughter's age, then father after 5 years, how many times he would be of his daughter age?

Age of daughter = x — After 5 years
Age of father = $4x$ $\Rightarrow$ $x+5$
According to condition = $4x+5$ $\Rightarrow$ $4x+5$

$= 5(x+4)$
$= 4x+5$
$4x+5 = 5x+20$
$4x-5x = 20-4$
$-x = 16$
Age of daughter = 16
Age of father = $16 \times 4x = 64$
Ans 16

c What will be volume of a football with diameter 12 cm?

Diameter = 12 cm

Volume = ?

Formula → Volume = $\frac{4}{3}\pi r^3$

$= \frac{4}{3}(12)^3\pi$ → $12^3 = 12\times12\times12$

$= \frac{4}{3}(1728)\pi$

$= \frac{6912}{3} \quad 2304$

$= 2304\pi$ cm³ Answer

d The pentagon building in washington D.C is a regular pentagon with each side of 281m. Find perimeter of the building.

Length of side of building = a = 281 m

Perimeter of regular pentagon = 5a

$= 5\times(281)$

perimeter of regular pentagon = 1405 m Answer.

Q.No.7

q Average of 7 consecutive number is 20. Find the largest of these numbers.

required number = x

x, x+1, x+2, x+3, x+4, x+5, x+6

According to given condition

$\frac{x+x+1+x+2+x+3+x+4+x+5+x+6}{7} = 20$

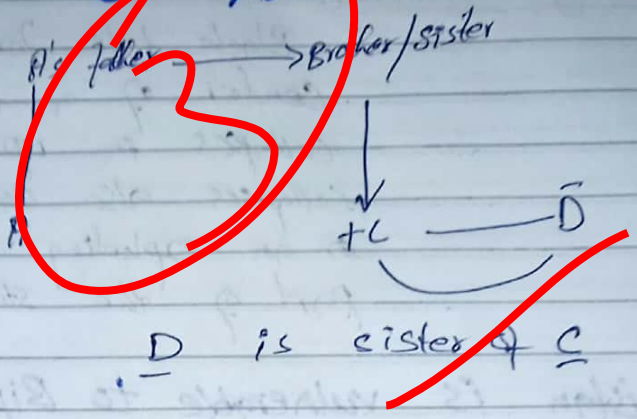
$7x + 21 = 20\times7$

$7x = 140 - 21$

$x = \frac{119}{7} \Rightarrow x = 17$

Largest number $x+6 = 17+6 = 23$ Ans

b A told B that C is his father's nephew. D is A's cousin but not the brother of C. What relationship is there between D and C.



D is sister of C Ans

Section-A

Q.No.3

q How black Hole is formed from Stars?

A black hole is a massive circular area in space where the gravity surrounding the center is so strong that it pulls everything into it, even light.

Formed:

Black hole form stars of a specific size at the end of their life. A smaller stars like our sun forms a white dwarf at the end of its life. A medium size star ends its life as a neutron star. A huge star, many times bigger than our sun, becomes a black hole. When a star runs out of fuel in its core, it collapes and its density becomes greater. When a star starts big enough, it will collapes, making it density very strong, nearly infinite. Density is defined as mass divided by volume, this means that the more massive something is

is but the less space it takes up, the more dense it is

According to NASA:

Black hole forms when the center of a very massive star collapses in upon itself. This collapses also causes a supernova, or an exploding star, that blasts part of the star into space.

b Pakistan is vulnerable to Biparjoy Cyclone nowadays. How Cyclones are formed?

Introduction:

Generally, winds rise above 118 kmph, it is known as a cyclone. These rotating winds forming over the Indian ocean and South ocean are termed as cyclones. In other regions they are usually called by different names such as typhoons, hurricanes etc.

Formation:

⇒ warm and moist air over the ocean rises upward due to less density, leaving less air near the ocean surface, as a result, it starts to create a low-pressure zone.

⇒ Due to surrounding high-pressure areas, air flows into this low-pressure and eventually warms up, forming a cycle.

In Pakistan:

15 June 2023 Cyclone Biparjoy just made landfall on the border of Pakistan and India.