GSA Mock Test

Section B

Q. NO 6.

a - Depreciation rate = 10% every year

Present value = Rs 8748

Price of the machine 3 years ago = ?

Final price = initial price $\left(1 + \frac{r}{100}\right)^t$

$8748 = x \times \left(1 + \frac{10}{100}\right)^3$

$8748 = x \times \left(\frac{90}{100}\right)^3$

$8748 \times \frac{10}{9} \times \frac{10}{9} \times \frac{10}{9} = x.$

$\frac{8748000}{729} = x.$

$12000 = x$

Part B

Let, father = y.

daughter = x.

So father = 4 daughter.

$y = 4x.$ — (1)

After 5 years.

$y+5 = 3(x+5)$

$y = 3x+10$ — (2)

After 5 years.

$y+5+5 = ?$

So, by putting the eq 1 into 2

$4x = 3x+10$

$4x-3x = 10$

$x = 10$

So the present age of daughter is 10 years and 40 years of father.

After 10 years the age will be

$40+10 = 50$ — father

$10+10 = 20$ — daughter.

So in the ratio, father : daughter.

$50:20 = 5:2$

So father's age will be 2.5 times of the daughter.

Part C

diameter = 12cm

$r = 6cm$

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

$= \frac{4}{3} \times \pi \times (6)^3$

$= \frac{4}{3} \times 6 \times 6 \times 6 \times \pi$

$= 288\pi \ cm^3$

4
36
×8
288

Part D

two trains cross a man in = 27 seconds
= 17 seconds
and cross each other = 23 seconds.

Let the speed of two trains be x m/sec and y m/sec

So the length of train = 27xm/sec

the length of 2nd train = 17ym/sec

$SO = \frac{27x + 17y}{x+y} = 23$

$27x + 17y = 23x + 23y$

$27x - 23x = 23y - 17y$

$4x = 6y$

$\frac{x}{y} \quad \frac{6}{4} \quad \frac{3}{2}$

The ratio is $x:y = 3:2$ of the speed of the trains.

Q. NO 7

Part A

Average of 7 consecutive number = 20

find the largest number = ?

$$\frac{\text{Sum of all}}{\text{Total NO. of the numbers}} = \text{Average}$$

$$\frac{n + (n+1) + (n+2) + (n+3) + (n+4) + (n+5) + (n+6)}{7} = 20.$$

$$\frac{7n + 21}{7} = 20.$$

$$7n + 21 = 20 \times 7$$

$$7n + 21 = 140$$

$$7n = 140 - 21$$

$$7n = 119$$

$$n = 17.$$

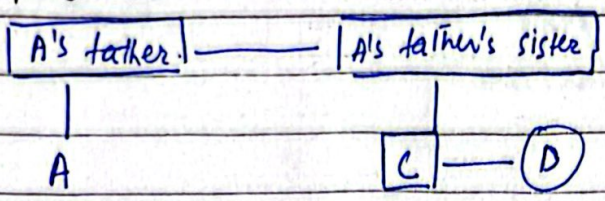
$$n + 6 = 17 + 6 = 23.$$

the largest number is 23

20
× 7
140

3 1
140
21
119

Part B



□ - male
○ - Female
= - Married couple
– – Siblings
| - Difference of a generation

So, A is sister of C.

Part C

i- 4, 18, ____ 100, 180, 294, 448

$2^3 - 2^2 = 8 - 4 = 4$
$3^3 - 3^2 = 27 - 9 = 18$
$4^3 - 4^2 = 64 - 16 = 48$
$5^3 - 5^2 = 125 - 25 = 100$

So, the missing number is 48.

ii- 1, 2, 10, 37, 101, ____

$1 + 1^3 = 2$
$2 + 2^3 = 10$
$10 + 3^3 = 27 + 10 = 37$
$37 + 4^3 = 64 + 37 = 101$

$101 + 5^3 = 101 + 125 = 226$

So, the missing number is 226

iii - 11, 17, 39, 85, ____

12

6 46

$11 + (3^2 - 3) = 17$

$17 + (5^2 - 3) = 39$

$39 + (7^2 - 3) = 85$

$85 + (9^2 - 3) = 163$

So, the answer is 163.

iv - 13, 24, 46, 90, 178, ____

22 88

11 44

Second difference.

$22 - 11 = 11$

$44 - 22 = 22$

$88 - 44 = 44$

Third difference

$22 - 11 = 11$

$44 - 22 = 22$

$88 \times 2 = 176$.

$176 + 178 = 354$

So the answer is 354

5- 4, ___, 144, 400, 900, 1764

$2^2 = 4$

$2+4 = 6^2 = 36$

$6+6 = 12^2 = 144$

$12+8 = 20^2 = 400$

$20+10 = 30^2 = 900$

$30+12 = 42^2 = 1764$

So, the missing number is 36

Part D.

$A:B = 1:2 = \frac{A}{B} = \frac{1}{2}$.

$B:C = 3:2 = \frac{B}{C} = \frac{3}{2}$.

$C:D = 3:4 = \frac{C}{D} = \frac{3}{4}$

difference in share of A:D = 2240

Share of B = ?

~~$\frac{A}{B} : \frac{B}{C} = \frac{1}{2} : \frac{3}{2}$~~.

The ratio of A and B = $1:2 = \frac{1}{2} \times \frac{9}{9} = \frac{9}{18}$

The ratio of B and C = $3:2 = \frac{3}{2} \times \frac{6}{6} = 18/12$

The ratio of C and D = $\frac{3}{4} \times \frac{4}{4} = 12/16$

So, A : B : C : D = 9 : 18 : 12 : 16

Let's assume that x is the share.

$A = 9x$

$B = 18x$

$C = 12x$

$D = 16x$.

So the differen between A and D's share is 2240.

$16x - 9x = 2240$

$7x = 2240$

$x = \frac{3240}{7}$

$\boxed{x = 320}$

B's share $= 18x$

$= 18 \times 320$

$= 5760$

Now, the answer is 5760, and B's share is Rs. 5760.

Good attempt
Follow step by step method
Given data
Required
Solution