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BATCH: 367

GSA - MOCK

SECTION B

QUESTION 6

(a) depreciating rate = 10 % per year

present value = 8748 Rs.

price 3 yrs ago = ?

$$\frac{8748}{0.9} = \text{price (1 year ago)}$$

9720 Rs. = price

2 years before = $\frac{9720}{0.9}$

= 10800 Rs.

3 years before Price = $\frac{10800}{0.9}$

Price (3 yrs ago)	= 12000 Rs.

(b) Let father's present age = y

daughter's // // = x

$y = 4x$ - ①

after 5yrs: given $y+5 = 3(x+5)$ - ②

now putting ① in ②

$4x+5 = 3x+15$ → $x = 10$ yrs

$y = 40$ yrs

daughter's present age = 10 yrs

father's // // = 40 yrs

after 10 yrs :

father's age = 50 yrs

daughter's age = 20 yrs

Father's age after 10yrs would be 2.5 times of his daughter's age.

(c) diameter of football = 12 cm

$$\text{radius} = \frac{12}{2}$$

$$r = 6 \text{ cm}$$

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

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

$$= \frac{4}{3_1} \times \pi \times 2\cancel{16}^{72}$$

$$\text{Volume of Football} = 288\pi \text{ cm}^3 \approx \text{or } 904.9 \text{ cm}^3$$

(d) Length of first train = L_1

// // second // = L_2

Speed of first train = S_1

// // second // = S_2

$S_1 = \frac{L_1}{27}$

$S_2 = \frac{L_2}{17}$

} time to cross man

$\frac{L_1 + L_2}{S_1 + S_2} = 23$ time to cross each other.

$L_1 = S_1(27)$

$L_2 = S_2(17)$

$27S_1 + 17S_2 = 23(S_1 + S_2)$

$27S_1 + 17S_2 = 23S_1 + 23S_2$

$4S_1 = 6S_2$

$\frac{S_1}{S_2} = \frac{6}{4}$

Ratio = 3:2

$S_1 : S_2$

$\frac{S_1}{S_2} = \frac{3}{2}$

QUESTION 7

(a) Average of 7 consecutive numbers is 20.

Let consecutive numbers be:

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

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

$7x + 21 = 20(7)$

$7x = 140 - 21$

$7x = 119$

$x = 17$

∴ Largest number

$= 17 + 6$

$= 23$

(b) D and C are cousins

(c) (i) 48

(ii) 226

(iii) 163

(iv) 289

(v) 3104