Arithmetical Reasoning Study Materials

Arithmetical Reasoning tests the ability to solve basic arithmetic problems encountered in everyday life. These problems require basic mathematical skills like addition, subtraction, multiplication, division etc. The tests include operations with whole numbers, rational numbers, ratio and proportion, interest and percentage, and measurement. Arithmetical reasoning is one factor that helps characterize mathematics comprehension, and it also assesses logical thinking.

EXAMPLE**1. The total of the ages of Amar, Akbar and Anthony is 80 years. What was the total of their ages three years ago?**
(a) 71 years   (b) 72 years
(c) 74 years   (d) 77 years

Sol. (a) Required sum = $(80-3 \times 3)$ years
= $(80 - 9)$ years
= 71 years.

EXAMPLE**2.** Two bus tickets from city A to B and three tickets from city A to C cost Rs. 77 but three tickets from city A to B and two tickets from city A to C cost Rs. 73. What are the fares for cities B and C from A?

(a) `4, Rs23    (b) `13, Rs17

(c) `15, Rs14    (d) `17, Rs13

Sol. (b) Let Rs. x be the fare of city B from city A and Rs. y be the fare of city C from city A.
Then, $2x + 3y = 77$ ...(i)
and $3x + 2y = 73$ ...(ii)
Multiplying (i) by 3 and (ii) by 2 and subtracting, we get: $5y = 85$ or $y = 17$.
Putting $y = 17$ in (i), we get : $x = 13$.

EXAMPLE**3.**
If Reeta is 18 years old then Sukhada is 12 years.

A student got twice as many sums wrong as he got right. If he attempted 48 sums in all, how many did he solve correctly?
(a) 12   (b) 16
(c) 18   (d) 24

Sol. (b) Suppose the boy got x sums right and 2x sums wrong. Then, $x \div 2x = 48$, $3x = 48$, $x = 16$.

EXAMPLE**4.**

In a group of cows and hens, the number of legs are 14 more than twice the number of heads. The number of cows is
(a) 5   (b) 7
(c) 10   (d) 12

Sol. (b) Let the number of cows be x and the number of hens be y.
Then, $4x + 2y = 2 (x + y) + 14$, $4x+2y = 2x+2y +14$, $2x= 14$, $x =7$.

EXAMPLE**5.**

Rani, Reeta, Sukhada, Jane and Radhika are friends. Reeta is 18 years of her age, Radhika is younger to Reeta, Rani is in between Radhika and Sukhada while Reeta is in Between Jane and Radhika. If there be a difference of two years between the ages of girls from eldest to the youngest, how old is Sukhada?
(a) 10 years   (b) 12 years
(c) 14 years   (d) 16 years

Sol. (b) Arranging them on the basis of their ages,
Jane>Reeta>Radhika>Rani>Sukhada

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