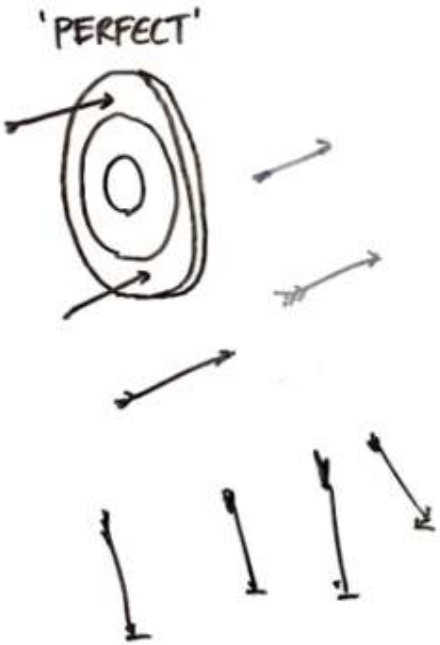
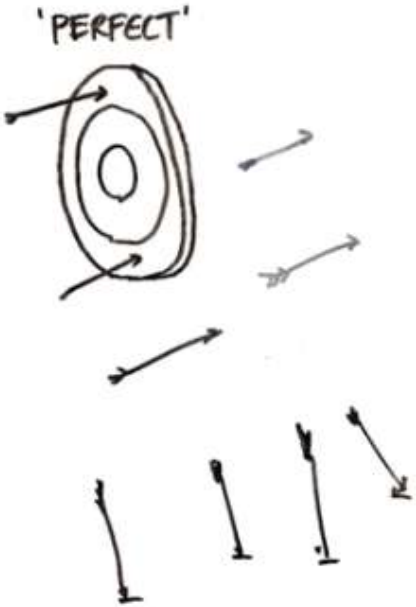
- Practice:
  1. Ratio of the earnings of A and B is 4:7. If the earnings of A increases by 50% and those of B decreased by 25%, the new ratio of their earnings becomes 8:7. What are A's earnings?
  2. Three persons A, B and C divide a certain amount of money such that A's share is Rs. 4 less than half of the total amount, B's share is Rs. 8 more than half of what is left and finally C takes the rest which is Rs. 14. Find the total amount they initially had with them?
  3. In 4 years Raj father will be twice raj age then , where as two years ago his mother was twice his age . If Raj is going to be 32 years old eight years from now then what is the sum of his parents age now.
  4. At the end of 1994 Rohit was half as old as his grandmother. The sum of the years in which they were born is 3844. How old Rohit was at the end of 1999?



- Practice:

5. 10 years ago, the average age of 10 people was 33 years. After 3 years, a person of age 40 died. After another 3 years, another person of age 40 died. After another 3 years, another person of age 30 dies. Find the present average age.
6. After 6 years Raju's father's age will be twice that of the his age and 2 years ago, his mothers age was twice that of Raju's age. What is the sum of Raju's parents' age?
7. Six years ago Raj's father's age is 6 times the age of Raj. The difference of present ages is 35. What is the sum of their present ages?
8. A grand father has 3 grand children. Age difference of two children among them is 3. Eldest child age is 3 times the youngest child's age and the eldest child age is two year more than the sum of age of other two children. What is the age of the eldest child?



Partnership & Ages

(1) $A = 4x$ $B = 7x$

A - new = $4x + 0.5 \times 4x = 6x$

B - new = $7x - 0.25 \times 7x = 5.25x$

$\frac{6x}{5.25x} = \frac{8}{7}$ $42x : 42x$

(2) A - 4 less than Total

B - 8 more than half of what left after A

C - 14

Total amt = x

A - $\frac{x}{2} - 4$

Remaining - $\frac{x}{2} + 4$

B share = $\frac{1}{2}\left(\frac{x}{2} + 4\right) + 8 = \frac{x}{4} + 10$

Removing for C: $\frac{x}{4} - 6 = 14$

Solve: $\frac{x}{4} = 20$ $x = 80$

(3)

Raj age = R

8 years: $R + 8 = 32$, $R = 24$

Father age in 4 yrs: $2 \times (R + 4) = 2 \times 28 = 56$

Fathers Current age: $56 - 4 = 52$.

Mother age 2 year : $2 \times (R-2) = 2022 - 44$

Mother current age : $44 + 2 = 46$

sum = $52 + 46 = 98$

4] Rohit age = R

Grandmother age = 2R

Birth year of Rohit : $1994 - R$

Birth year of grandmother : $1994 - 2R$

Birth year $(1994 - R) + (1994 - 2R) = 3844$

$3988 - 3R = 3844$, $3R = 144$, $R = 48$

end of 1999 : $48 + 5 = 53$

5] Total age 10 yrs = $10 \times 33 = 330$

age : $330 + 10 \times 10 = 430$

3 years, one 40 years : $430 + 3 \times 10 - 40 = 420$

Survivors 9

another 3 years

TA : $420 + 3 \times 9 - 40 = 407$

Survivors : 8

TA : $407 + 3 \times 8 - 30 = 401$

Survivors : 7

① Raj's age = R father = F, Mother M

father age in 6 yrs = F+6 = 2(R+6)

F = 2R + 6

Mother age 2 yrs = M − 2 = 2(R − 2)

M = 2R − 2

F + M = (2R + 6) + (2R − 2) = 4R + 4

② R - Raj's age father current = F

Six years ago

F − 6 = 8(R − 6)

F = 6R − 30

Age difference : F − R = 35

F : 6R − 30 − R = 35, 5R = 65, R = 13

F = 6 × 13 − 30 = 48

Sum of ages : 13 + 48 = 61

④ e = 3y

e = y + m + 2

Age difference m − y = 3

m − y = 3 ⇒ m = y + 3

3y = y + (y + 3) + 2 3y = 2y + 5

y = 5

e = 3 × 5 = 15