Parul University
Faculty of Engineering and Technology
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Subject: Quant and Reasoning (303105311)
Branch: CSE

Unit 5 -: Ratio & Proportion, Problems on ages and Percentage

Ratio:

a) The comparision between two quantities in terms of magnitude is called Ratio.
b) If a and b are two numbers, the ratio of a to b is A/B or a ÷ b and is denoted by a:b.The numerator 'a' is called the antecedent and denominator 'b' is called as consequent.

Notes :

a) The comparison of two quantities is meaningless if they are not of the same kind or in the same units.
b) A ratio does not change, if both of its terms are Multiplied or divided by the samenumber.

Proportion

1) The equality of two ratios is called proportion.
2) If a:b = c:d then a,b,c and d is said to be in proportion and we write a:b :: c:d .This isread as "a to b as c to d".

Fourth proportional: If a: b = c: d then d is called the fourth proportional.
To find fourth proportional (Multiply first and last digit = multiply middle digit).
i.e. d = $\frac{b\ X\ c}{a}$

Third proportional: If a: b = b: c then c is called third proportional.
To find the third proportional $(\text{Middle digit})^2$= multiplication of first and last digit.
i.e. $b^2 = a \times c$.

Mean proportional: If a:x :: x:b, then x is called The mean or second proportional of a & b.

$$\frac{a}{x} = \frac{b}{x} \text{ or, } x^2 = ab \text{ or, } x = \sqrt{ab}\ .$$

NOTE :) If a: b = n_1: d_1 and b: c =n_2: d_2, then a: b: c = (n_1×n_2) :($_1$×n_2):(d_1×d_2).If a: b = n_1: d_1, b: c =n_2: d_2 and c: d = n_3: d_3,
then a: b: c: d = (n_1× n_2× n_3) ::(d_1× n_2 × n_3) :(d_1× d_2×n_3) :(d_1× d_2× d_3).

Example 1: If A: B = 3:4 and B: C = 8:9, find A: B: C.

Solution: Here, $n_1 = 3$, $n_2 = 8$, $d_1 = 4$ and $d_2 = 9$.
∴ A:B:C = $(n_1 \times n_2):(d_1 \times n_2):(d_1 \times d_2) = (3 \times 8):(4 \times 8):(4 \times 9) = 24:32:36$ or, 6:8:9.

Example 2: If A: B = 2:3, B: C = 4:5 and C: D =6:7, find A: D.

Solution: Here, n1 = 2, n2 = 4, n3 = 6, d1 = 3, d2 = 5 and d3 = 7.
∴ A: B: C: D = $(n_1 \times n_2 \times n_3)$ ::($d_1 \times n_2 \times n_3$) :($d_1 \times d_2 \times n_3$) :($d_1 \times d_2 \times d_3$)
= (2 × 4 × 6) :(3 × 4 × 6) :(3 × 5 × 6) :(3 × 5 × 7)
= 48:72:90:105 or, 16:24:30:35.
Thus, A: D = 16:35.

Example 3: Two numbers are in the ratio of 4:5 and the sum of these two numbers is 27 then these two numbers are =?
Solution:
Two numbers are = 12 & 15.

NOTE: The ratio between two numbers is a: b. if x is added to each of these numbers, the ratio Becomes c: d. the two numbers are given as:

$$\frac{ax(c-d)}{ad-bc} \text{ and } \frac{bx(c-d)}{ad-bc}.$$

NOTE: The ratio between two numbers is a: b. if x is subtracted from each of these numbers, the ratio Becomes c: d. the two numbers are given as:

$$\frac{ax(d-c)}{ad-bc} \text{ and } \frac{bx(d-c)}{ad-bc}$$

Example 4: Given two numbers which are in the Ratio of 3:4. If 8 is added to each of them, their ratio Is changed to 5:6. Find the two numbers.
Answer: 12 & 16.

Example 5: The ratio of two numbers is 5:9. If each number is decreased by 5, the ratio becomes 5:11 find the numbers.
Answer: 15 & 27.

Exercise:

1) The ratio of two numbers is 4:5. If both numbers are increased by 4, the ratio becomes 5:6. What is the sum of the two numbers?
   (a) 9
   (b) 18
   (c) 27
   (d) 36
   Answer: (d) 36

2) Find two numbers such that their mean proportional is 6 and third proportional is 20.25.
   a) 4,5
   b) 5,9
   c) 4,9 $\sqrt{4\ X\ 9}$ = 6 & y^2= 20.25 x
   d) 2,4
   Answer: (c) 4, 9

3) A sum of Rs. 53 is divided among Rohit, Mohit and Shobhit in such a way that Rohit gets Rs.7 more than what Mohit gets and Mohit gets Rs. 8 more than what Shobhit gets. Find the ratio of their shares.

a) 16:9:18
b) 25:18:10
c) 18:25:10
d) 15:8:30

Answer: (b) 25:18:10

Suppose Shobhit gets Rs.X, then Mohit gets Rs.(x+8) and Rohit gets Rs.(x+15) then, x+x+8+x+15 = 53
So, x = 10
Therefore, Rohit : Mohit : Shobhit = 25:18:10

4) Salaries of Ravi and Sumit are in the ratio 2:3. If the salary of each is increased by Rs. 4000, the new ratio becomes 40:57. What is Sumit's salary?

a) 38000
b) 46800
c) 36700
d) 50000

Answer: a) 38000

Let the original salaries of Ravi and Sumit be Rs. 2x and Rs. 3x respectively. Then,

(2x+4000) / (3x+4000) = 40 / 57
⇒ 57 × (2x + 4000) = 40 × (3x+4000)
⇒ 6x = 68,000
⇒ 3x = 34,000

Sumit's present salary = (3x + 4000) = Rs.(34000 + 4000) = Rs. 38,000.

5) A mixture contains alcohol and water in the ratio 4 : 3. If 5 liters of water is added to the mixture, the ratio becomes 4: 5. Find the quantity of alcohol in the given mixture.

a) 10 (c) 15
b) 12 (d) 18

Answer: A) 10

Let the quantity of alcohol and water be 4x litres and 3x litres respectively 4x/(3x+5) = 4/5
20x = 4(3x+5)
8x = 20
x = 2.5
Quantity of alcohol = (4 x 2.5) litres = 10 litres.

6. A bag contains 50 P, 25 P and 10 P coins in the ratio 5: 9: 4, amounting to Rs. 206. Find the number of coins of each type respectively.

a) 360, 160, 200
b) 160, 360, 200
c) 200, 360,160
d) 200,160,300

Answer: C) 200, 360,160

let ratio be x.
Hence no. of coins be 5x ,9x , 4x respectively Now given total amount = Rs.206
=> (0.50)(5x) + (0.25)(9x) + (0.10)(4x) = 206
we get x = 40
No. of 50p coins = 200, No. of 25p coins = 360, No. of 10p coins = 160.

7. If the ratio of time period of investment of P and Q is 4:5 , profit at the end of the year is 75000 and P's share is Rs . 15000 , then what is the ratio of Q's and P's investment ?
   a) 5:16
   b) 6:7
   c) 12:13
   d) 16:5

   Answer: (d) 16:5.

   Let ratio of P's investment and Q's investment be x:y Therefore, profit will be shared in the ratio 4x:5y.

   Given $\frac{4x}{4x+5y}$ X 75000 = 15000

   So 20x = 4x + 5y

   Y: X = 16: 5

8. A: B: C is in the ratio of 3: 2: 5. How much money will C get out of Rs 1260?
   a) 252
   b) 125
   c) 503
   d) None of these

   Answer: D

   Explanation:

   C's share = [C's ratio/ sum of ratios] * total amount

   C's share = (5/10) * 1260

   C's share = 630

9. If a: b is 3: 4 and b: c is 2: 5. Find a: b: c.

   Answer: a: b: c = 3: 4: 10

10. 5600 is to be divided into A, B, C, and D in such a way that the ratio of share of A: B is 1: 2, B: C is 3: 1, and C: D is 2: 3. Find the sum of (A and C) and (B and C).
    a) Rs 2400, Rs 3000
    b) Rs 2000, Rs 3000
    c) Rs 2400, Rs 3200
    d) Rs 2000, Rs 3200

    Answer: D

    So, A: B: C: D = 3: 6: 2: 3

    Now, the share of A and C = [(A+C)/ (A+B+C+D)] * total amount

    Or, the share of A and C = [(3+2)/ (3+6+2+3)] * 5600

    Or the share of A and C = (5/14)*5600 = 2000

    Similarly, the share of B and C = (8/14)*5600 = 3200

11. A and B together have Rs. 1210. If $\frac{4}{15}$ of A's amount is equal to $\frac{2}{5}$ of B's amount, how much amount does B have?
    a) Rs. 460
    b) Rs. 484
    c) Rs. 550
    d) Rs. 664

    Answer: B

12. Seats for Mathematics, Physics and Biology in a school are in the ratio 5 : 7 : 8. There is a proposal to increase these seats by 40%, 50% and 75% respectively. What will be the ratio of increased seats?
    a) 2:3:4
    b) 6:7:8
    c) 6:8:9
    d) N.O.T
    Answer: a
    Originally, let the number of seats for Mathematics, Physics and Biology be 5x, 7x and 8x respectively.
    Number of increased seats are (140% of 5x), (150% of 7x) and (175% of 8x)=((140/100)×5x), ((150/100)×7x) and ((175/100)×8x) =7x,10.5x,and 14x
    ∴The required ratio=7x: 10.5x: 14x=14x: 21x: 28x=2:3:4.

13. If 0.75: *x* :: 5 : 8, then *x* is equal to:
    a. 1.12
    b. 1.2
    c. 1.25
    d. 1.30
    Answer: b
    Explanation:
    x X 5 = 0.75 X 8
    ⇨ X = 6/5 = 1.20.

14. The sum of three numbers is 98. If the ratio of the first to second is 2 :3 and that of the second to the third is 5 : 8, then the second number is:
    a) 20
    b) 30
    c) 40
    d) 50
    Answer: b
    Let the three parts be A, B, C. Then,
    A: B = 2: 3 and B: C = 5: 8
    ⇒A: B: C=2:3:24/5 = 10:15:24
    ⇒B=98× (15/49) = 30

15. If Rs. 782 be divided into three parts, proportional to 1/2 :2/3 :3/4 , then the first part is:
    a) Rs 182
    b) Rs 190
    c) Rs 196
    d) Rs 204
    Answer: Rs 204
    (12:23:34)×12
    ⇒ 6: 8: 9
    ∴ 1st part's share = Rs. ((623) ×782) = Rs 6×34 = Rs.204

Problem on Ages:

Important Formulas on "Problems on Ages":

1. If the current age is *x*, then *n* times the age is *nx*.
2. If the current age is *x*, then age *n* years later/hence = *x* + *n*.
3. If the current age is *x*, then age *n* years ago = *x* - *n*.

4. The ages in a ratio *a* : *b* will be *ax* and *bx*.

5. If the current age is *x*, then $\frac{1}{n}$ of the age is $\frac{x}{n}$.

1. The sum of ages of 5 children born at the intervals of 3 years each is 50 years. What is the age of the youngest child?

    a. 4 Years
    b. 8 Years
    c. 10 Years
    d. N.O.T
    Answer: A)

Let the ages of children be *x*, (*x* + 3), (*x* + 6), (*x* + 9) and (*x* + 12) years.
Then, *x* + (*x* + 3) + (*x* + 6) + (*x* + 9) + (*x* + 12) = 50
⇒ 5*x* = 20
⇒ *x* = 4.
∴ Age of the youngest child = *x* = 4 years.

2. A is two years older than B who is twice as old as C. If the total of the ages of A, B and C be 27, then how old is B?

    a. 7
    b. 8
    c. 9
    d. 10
    Answer: d

Let C's age be *x* years. Then, B's age = 2*x* years. A's age = (2*x* + 2) years.
∴ (2*x* + 2) + 2*x* + *x* = 27
⇒ 5*x* = 25
⇒ *x* = 5.
Hence, B's age = 2*x* = 10 years.

3. Present ages of Sameer and Anand are in the ratio of 5 : 4 respectively. Three years hence, the ratio of their ages will become 11 : 9 respectively. What is Anand's present age in years?

    a. 24
    b. 27
    c. 40
    d. N.O.T
    Answer: A

Let the present ages of Sameer and Anand be 5*x* years and 4*x* years respectively.
Then $\frac{5x+3}{4x+3} = \frac{11}{9}$
=>9(5*x* + 3) = 11(4*x* + 3)
=>45*x* + 27 = 44*x* + 33
⇒ 45*x* - 44*x* = 33 - 27
⇒ *x* = 6.
∴ Anand's present age = 4*x* = 24 years.

4. Father is aged three times more than his son Ronit. After 8 years, he would be two and a half times of Ronit's age. After further 8 years, how many times would he be of Ronit's age?

    a. 2 Times
    b. $2\frac{3}{4}$ Times

c. $2\frac{1}{2}$ Times
d. 3 Times
Answer: A

Let Ronit's present age be x years. Then, father's present age =(x + 3x) years = 4x years.

$4x + 8 = \frac{5}{2}(x + 8)$
$\Rightarrow 8x + 16 = 5x + 40$
$\Rightarrow 3x = 24$
$x = 8$.
Hence Required Ratio = $\frac{4x+16}{x+16} = \frac{48}{24} = 2$

5) A father said to his son, "I was as old as you are at the present at the time of your birth". If the father's age is 38 years now, the son's age five years back was:
a. 14
b. 19
c. 33
d. 38
Answer: a)
Let the son's present age be *x* years. Then, (38 - *x*) = *x*
$\Rightarrow 2x = 38$.
$\Rightarrow x = 19$.
$\therefore$ Son's age 5 years back (19 - 5) = 14 years.

6) Ayesha's father was 38 years of age when she was born while her mother was 36 years old when her brother four years younger to her was born. What is the difference between the ages of her parents?
a) 2
b) 4
c) 6
d) 8
Answer: c)
Mother's age when Ayesha's brother was born = 36 years.
Father's age when Ayesha's brother was born = (38 + 4) years = 42 years.
$\therefore$ Required difference = (42 - 36) years = 6 years

7) Four year ago average age of P,Q and R is 33 years . At present, age of R is three years less than Q and P is three year older than Q. Then find the age of P one year hence ?
A) 36 years
B) 38 years
C) 41 years
D) 46 years
Answer : (C)

Let present age of Q be X, Present age of P = x+3 , Present age of R = x-3.
So , (x+3+x+x-3) - 4× 3 / 3 = 33
3x- 12 = 99
3x = 111
x = 37 years
Age of P after one year = 37+3+1 = 41 year

8) Ratio of age of A and B , 6 year ago was 3:4 . sum of the present age of B and C is 80 years. C is 80 years . C is 12 years elder to A . find the difference of B and C's age five years later ?
a) 3 years
b) 4 years
c) 5 years
d) 7 years

9) If 2 members of a family are in a ratio 3: $\frac{1}{2}$, and the average of their ages is 35.
Find the total of their ages after 11 years.

a. 81 years
b. 92 years
c. 102 years
d. 89 years

Answer: (b) 92 years
The average ages of 2 members = 35
The total of their ages = 35 * 2 = 70 years
The ratio of their ages = 3:$\frac{1}{2}$ = 6:1 (multiplying both sides by 2, to make the ratio in Natural numbers)
6x + x = 70
7x = 70
X = 10, 6x = 60
The total of their ages after 11 years = (10 + 11) + (60 + 11) = 21 + 71 = 92 years.

10) The ages of 3 brothers are in a ratio 3:5:11. If the difference between the ages of the youngest and the eldest brother is 24 years, find the total of their ages.
a) 49 years c) 51 years
b) 50 years d) 52 years
Answer : c) 51 years
Let their ages be in relation to a constant term x.
The ages of the brother = 3x, 5x and 11x respectively.
The difference between the ages of the youngest and the eldest brother = 11x – 3x
= 8x
The difference = 24 years (given) 8x = 24 years
X = 24 / 8 = 3 years
The sum of their ages = 3x + 5x + 11x = 19x 19x = 19 * 3 = 51 years.

11) Out of 3 students a, b and c, a is 18 years old if the ages of the b and c are in a ratio 2 : 3 and the ratio of age of a and b is 6 : 5, find the average age of all the 3 students.
a) 16.5 years
b) 17.5 years
c) 18.5 years
d) 19.5 years
Answer : c) 18.5 years
The ratio of ages of a and b is 6 : 5. The ratio of ages of b and c is 2 : 3. The age of a is 18 (given).
Age of b = 18 / 6 * 5 = 15 years
Age of c = 15 / 2 * 3 = 22.5 years
The total of their ages = 15 + 18 + 22.5 = 55.5 years.
Average of their age = 55.5 / 3 = 18.5 years.

12) The average age of A and B is 20 years. If C were to replace A, the average would be 19 and the average age of C and A would be 21. The ages of A, B and C respectively are:

a) 18,22,20
b) 18,20,22
c) 22,18,20
d) 22,20,18

Answer: C)

According to the question (A+B)/2 = 20 years.
A+B = 40 years..... (i)
(C+B)/2 = 19 years.
C+B = 38 years..... (ii)
(C+A)/2 = 21 years.
C+A = 42 years..... (iii)
Add equation (i), (ii) and (iii)
2 (A+B+C) = 120 years.
A+B+C = 60 years..... (iv).
From equation (i) and (IV)
40+C = 60
C = 20 Years.
From equation (ii) and (IV)
A+38 = 60.
A = 22 years.
From equation (iii) and (IV)
B+42 = 60.
B = 18 years.
A, B, C = 22, 18, 20

Percentage:

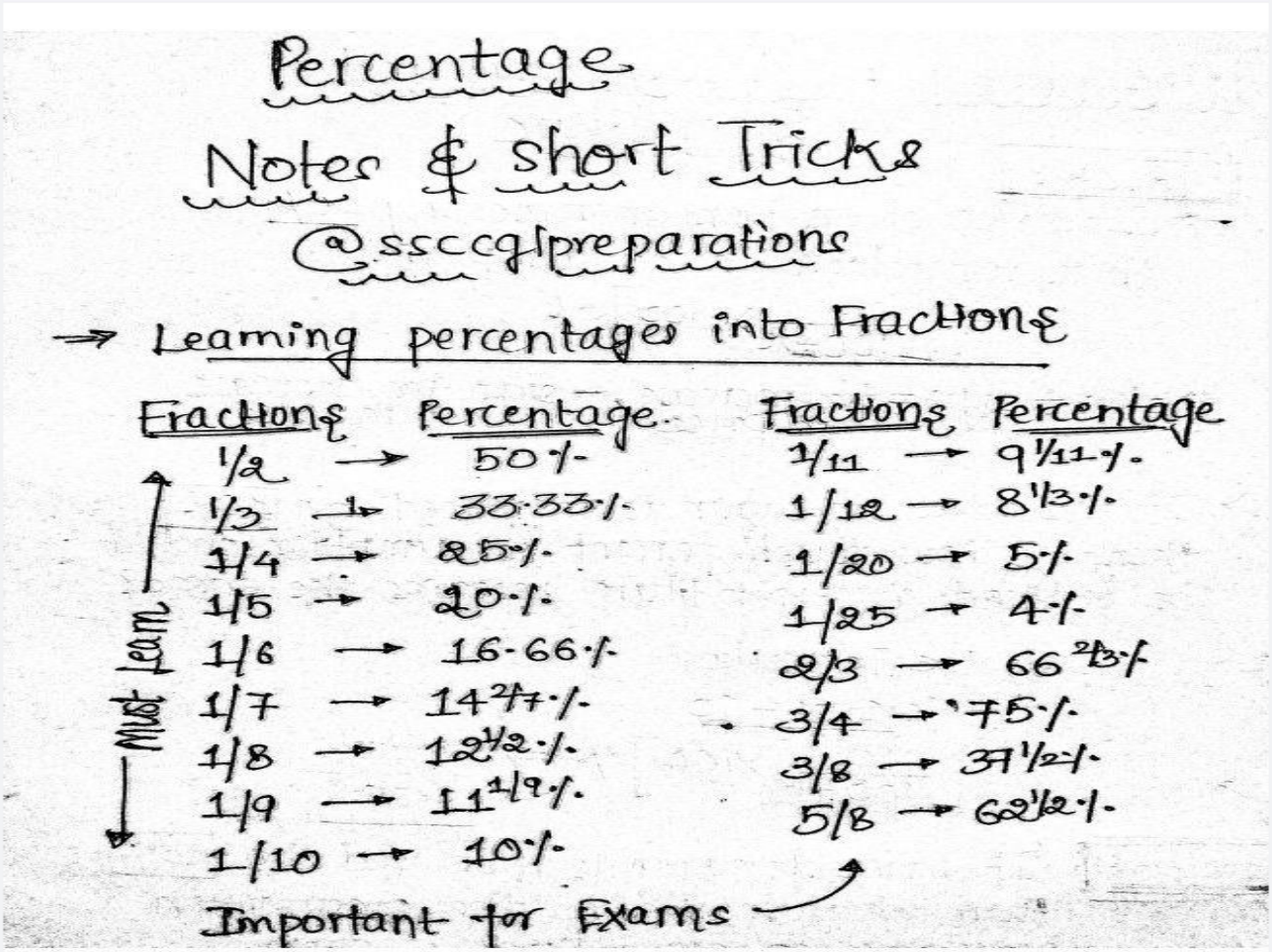
Calculate Percentage of the following:

1) 23% Of 1200 =
   23% = 20% + 3%
   = 2(10%) + 3(1%)
   Find 10% of 1200 which is 10^{th} part of 1200 and i.e. 120
   So 10% 0f 1200 = 120 & 1% of 1200 = 12
   So 23% Of 1200 = 2(120) + 3(12) = 276

2) 31% of 1200 = 372
3) 32% of 1200 = 386
4) 33% of 1200 = 396
5) 19% of 1200 = 20% - 1% = 228
6) 15% of 1200 = 10% + 5% = 120 + 60 = 180
7) 48% of 1200 = 576
8) 24% of 1200 = 288
9) 76% of 1200 = 912

10) 97 % of 1200 = 1164
11) 12.5% of 1200 = 25%/2 = (1/4)th part of 1200 = 300 & 300/2 = 150
12) 33.33% of 1200 = 400
13) 66.66% of 1200 = 800

1%	=	1/100	25%	=	1/4	80%	=	4/5
2%	=	1/50	33.33%	=	1/3	83.33%	=	5/6
4%	=	1/25	37.50%	=	3/8	87.50%	=	7/8
5%	=	1/20	40%	=	2/5	100%	=	1
8.33%	=	1/12	50%	=	1/2	120%	=	6/5
10%	=	1/10	60%	=	3/5	125%	=	5/4
12.50%	=	1/8	62.50%	=	5/8	133.33%	=	4/3
16.67%	=	1/6	66.67%	=	2/3	150%	=	3/2
20%	=	1/5	75%	=	3/4	175%	=	7/4



Exercise:

1) 40 % of 280 =?
   a) 112 = Answer
   b) 116
   c) 115
   d) 120

2) vWhose 35% is 280?
   a) 700
   b) 750
   c) 800 = Answer
   d) 850

3) Whose 35% is 280?
   a) 700
   b) 750 = Ans
   c) 800

d) 850

4) If 40% of an amount is 250, what will be 60% of that amount?
   a) 300
   b) 320
   c) 375 = Ans
   d) 400

5) If 30 % of 1520 + 40 % of 800 = x % of 5000, find the value of x.
   A) 14.42% b) 15.52% c) 12.22% d) 18.82%
   Answer: B
6) What is 3% of 5%?
   a) 60 % = Ans
   b) 70 %
   c) 65 %
   d) 75 %
7) Find the value of 25% of 10% of Rs. 800.
   a) 25
   b) 20 = ans
   c) 30
   d) 35
8) 1200 boys and 800 girls appeared in an examination. If 60% of the boys and 40% of the girls passed the examination, what is the percentage of candidates who failed in the examination?
   a) 42%
   b) 45%
   c) 48%
   d) 52%
   Answer: A)

Number of students failed = 40 % of boys (1200) + 60 % of girls (800)

$= \frac{40}{100} * 1200 + \frac{60}{100} * 800$

= 480 + 480 = 960

Total number of students = 1200 + 800 = 2000

∴ Percentage of candidates failed = $\frac{\text{number of students failed}}{\text{total number of students}} * 100$

$= \frac{960}{2000} * 100 = 48\ \%$

9) In an examination, 25% candidates failed in English and 35 % students failed in Math.If 15 % candidates failed in both, what is the percentage of candidates who passed in both the subjects?
   a) 45%
   b) 50%
   c) 55%
   d) 58%
   Ans: c)

Apply formula: = 100 - (x + y - z)
x = 25%
y = 35 %
z = 15 %
∴ Required percentage of candidates = 100 - (25 + 35 - 15)
= 100 - 45 = 55%

10) Two candidates contested an election. The winning candidate scored 54% and won by 88 votes. If 58 votes were declared invalid, find the total number of votes polled in the election?
    a) 1042
    b) 1100
    c) 1158
    d) 1188
    Ans: c)

Let the valid votes = x
As per question; 54% of x-46% of x = 88
8% of x = 88

$$\frac{8}{100}x = 88$$

$$x = \frac{8800}{8} = 1100$$

∴ Total votes polled = valid votes + invalid votes
= 1100 + 58 = 1158

11) What percentage of numbers from 1 to 70 have 1 or 9 in the unit's digit?
    a) 1
    b) 14
    c) 20
    d) 21
    Ans: c)

Clearly, the numbers which have 1 or 9 in the unit's digit, have squares that end in the digit 1. Such numbers from 1 to 70 are 1, 9, 11, 19, 21, 29, 31, 39, 41, 49, 51, 59, 61, 69.
Number of such number =14.

Required percentage = $(\frac{14}{70} \times 100)$ % = 20%

12) If A = *x*% of *y* and B = *y*% of *x*, then which of the following is true?
    a) A is smaller than B.
    b) A is greater than B.
    c) Relationship between A and B cannot be determined.
    d) N.O.T
    Ans: d)

13) A fruit seller had some apples. He sells 40% apples and still has 420 apples. Originally, he had:
    a) 588 Apples
    b) 600 Apples

c) 672 Apples
d) 700 Apples
Ans: D)
Suppose originally he had *x* apples.
Then, (100 - 40)% of *x* = 420.
X = 700 Apples.

14) Two students appeared at an examination. One of them secured 9 marks more than the other and his marks was 56% of the sum of their marks. The marks obtained by them are:
a) 39,30
b) 41,32
c) 42,33
d) 43,34
Ans: c)
Let their marks be (*x* + 9) and *x*.
Then x + 9 = $\frac{56}{100}$ (x + 9 + x)
So x = 33.
So, their marks are 42 and 33.

15) A batsman scored 110 runs which included 3 boundaries and 8 sixes. What percent of his total score did he make by running between the wickets?
a) 45%
b) $45\frac{5}{11}$%
c) $54\frac{6}{11}$%
d) 55%
Ans: B)
Number of runs made by running = 110 - (3 x 4 + 8 x 6)
= 110 - (60)
= 50.
So Required Percentage = ($\frac{50}{110}$ X 100) = $45\frac{5}{11}$%

16) If 20% of *a* = *b*, then *b*% of 20 is the same as:
a) 4% of *a*
b) 5% of *a*
c) 20% of *a*
d) None of these
Ans: A

17) Two numbers A and B are such that the sum of 5% of A and 4% of B is two-third of the sum of 6% of A and 8% of B. Find the ratio of A : B.
a)2 : 3 b) 1:1 c) 3 : 4 d) 4 : 3
Answer: D

18) In an election between two candidates, one got 55% of the total valid votes, 20% of the

votes were invalid. If the total number of votes was 7500, the number of valid votes that the other candidate got, was:

a) 2700
b) 2900
c) 3000
d) 3100

Ans: A)

Number of valid votes = 80% of 7500 = 6000.

∴ Valid votes polled by other candidate = 45% of 6000 = 2700

19) A student multiplied a number by 3/5 instead of 5/3. What is the percentage error in the calculation?

a) 20% b) 30% c) 60% d) 64%

Ans: d)

Let the number be *x*.

Then Error = $\frac{5x}{3} - \frac{3x}{5} = \frac{16x}{15}$.

Error% = $\left(\frac{\frac{16x}{15}}{\frac{5x}{3}} \times 100\right)$ = 64%.

20) The tank-full petrol in Arun's motor-cycle last for 10 days. If he starts using 25% more every day, how many days will the tank-full petrol last?

a) 6 Days b) 7 Days c) 8 Days d) 9 Days

Ans: c)

Assume 100 liters of petrol in a bike.

So, for 10 days, 10 liters is required daily.

Now using 25% more everyday means 12.5 liters of petrol.

So 100/12.5= 8.