



DAILY QUESTIONS

1ST JUNE '18

QUANT - RATIO



RATIO

1.1) The ratio of white collar to blue collar employees in a firm is 8: 3. Also ratio of male employees to female employees is 7 : 4. It is observed that 60% of the white collar employees are males.

Q.1) what is the ratio of female white collar employees to male blue collar employees?

[a] 16: 11

[b] 24: 11

[c] 3: 1

[d] data insufficient



Solution (a)

using the given data, we can draw the following table

Female white collar employees/male blue collar employees = $3.2X/2.2X = 16/11$

	male	female	
White collar	4.8X	3.2X	8X
Blue collar	2.2X	0.8X	3X
	7X	4X	11X

RATIO

Q.2) 20 boys and 25 girls form a group of social workers. During their membership drive, the same number of boys and girls joined the group (e.g. If 7 boys joined, 7 girls joined). How many members does the group have now, if the ratio of boys to girls is 7: 8?

[a] 80

[b] 75

[c]70

[d]85



Solution (b)

Number of boys = 20

Number of girls = 25

Ratio of boys to girls after joining of new members

$$= \frac{20+X}{25+X} = \frac{7}{8}$$

By solving this equation we get

$$= 160 + 8X = 175 + 7X$$

$$= 8X - 7X = 175 - 160$$

$$X = 15$$

After adding new members

$$\text{no. of boys} = 20 + 15 = 35$$

$$\text{No. Of girls} = 25 + 15 = 40$$

$$\text{Total members} = 75 \text{ (ans.)}$$

RATIO

Q.3) The ratio between the angles of a quadrilateral is 7:2:5:6 respectively. What is the sum of double the smallest angle and half the largest angle of the quadrilateral?

- [a] 135°**
- [b] 130°**
- [c] 125°**
- [d] 120°**

Solution (a)

The sum of the all four angles of a quadrilateral = 360°

Ratio of all angles = 7: 2: 5: 6

So, $7X + 2X + 5X + 6X = 360^\circ$

$$20X = 360$$

$$X = 360/20$$

$$X=18$$

Smallest angle = $2X$

Largest angle = $7X$

Sum of double the smallest and half the largest angle

$$= 2X \times 2 + 7X/2$$

$$= 4X + 7X/2$$

$$= 8X + 7X / 2$$

$$= 15X/2$$

$$= (15 \times 18)/2$$

$$= 135^\circ$$



RATIO

Q.4) The respective ratio between present age of Manoj and Wasim is 3: 11. Wasim is 12 years younger than Rehana. Rehana's age after 7 years will be 85 years. What is the present age of Manoj's father who is 25 years older than Manoj?

- [a] 40
- [b] 45
- [c] 43
- [d] 41

Solution (c)

Ratio between ages of Manoj and Wasim = 3: 11

Reena' age after 7 years = 85

Reena's present age = $85 - 7 = 78$

Wasim's' present age = $78 - 12 = 66$

Ratio = 3: 11

$11 = 66$

$3 = ?$

$66 \times 3 / 11 = 18$

Manoj's present age = 18

Manoj's father age = $18 + 25 = 43$



RATIO

Q.5) By mistake instead of dividing RS. 117 among A, B and C in the ratio $1/2: 1/3: 1/4$, It was divided in the ratio of 2: 3: 4. who gains the most and by how much?

[a] A, RS.28

[b] B, RS. 3

[c] C, RS. 20

[d] C, RS.25

Solution (d)

A B C = $1/2: 1/3: 1/4$

**Original ratio = $1/2 \times 12: 1/3 \times 12: 1/4 \times 12$
=6: 4: 3**

Original gains:

$$6X + 4X + 3X = 117 \text{ RS.}$$

$$X = 117/13 = 9$$

$$A = 9 \times 6 = 54 \text{ RS.}, B = 9 \times 4 = 36 \text{ RS.}, C = 9 \times 3 = 27 \text{ RS.}$$

BUT erroneous ratio =

$$A: B: C = 2: 3: 4$$

$$2X + 3X + 4x = 117 \text{ RS}$$

$$9X = 117, X = 13$$

$$A = 13 \times 2 = 26, B = 13 \times 3 = 39, C = 13 \times 4 = 52$$

hence, C gains most

$$52 - 27 = 25$$



RATIO

Q.6) Number 85 is divided into two parts such that thrice the first part and twice the second part are in the ratio 18: 5. Find the first

Part.

[a] 48

[b] 55

[c] 45

[d] 60

Solution (d)

Let the two parts be a and b.

$$\text{Given } 3a/2b = 18/5$$

$$=a/b = 36 /15$$

$$=12/5$$

$$\text{As } a + b = 85, a = 12/ (5+12) \times 85$$

$$=60 \text{ (Ans.)}$$



RATIO

Q.7) A student took papers in an examination, where the maximum marks were the same for each paper. In all papers together, the candidate obtained 58% of the total marks. His marks in these papers were in the ratio of 12: 13: 14: 15: 16: 17. Then the number of papers in which he got more than 55% is-

- [a] 6
- [b] 5
- [c] 4
- [d] 3



Solution (c)

The marks in the ratio 12: 13: 14: 15: 16: 17.

Let the marks be $12X + 13X + 14X + 15X + 16X + 17X$.

Then the sum of the marks in all the papers together

$$= 12X + 13X + 14X + 15X + 16X + 17X = 87X$$

But the given average of the total marks obtained = 58%

Let the full marks for a paper be 100

$$\text{Then, } 87X = 58(6)$$

$$X = 4$$

So, the marks obtained in all 6 papers are 48, 52, 56, 60, 64, 68.

He got more than 55% of the full marks in 4 papers.

RATIO

Q.8) when Ganesh was asked about his score in the last classroom test in which the maximum marks were 50, he replied, “the ratio of 15 less than my score to 15 more than three times my score is 1 : 5”. What is his score?

- [a] 35
- [b] 40
- [c] 45
- [d] 50

Solution (c)

Let Ganesh's score be X.

$$\text{So, } (X-15) / (3X+15) = 1/5$$

$$= 5X - 75 = 3X + 15$$

$$= 2X = 90$$

$$X = 45 \text{ (Ans.)}$$



RATIO

Q.9) The monthly telephone bill has a fixed tariff of rupees 250 for up to a 50 outgoing calls. For over 50 calls there is a charge of rupees 1.25 per call. The ratio of the bills paid by Arvind and Prasad for a particular month is 2: 3 and the number of outgoing calls made by Arvind is 90. What is the number of outgoing calls made by Prasad?

- [a] 210
- [b] 250
- [c] 160
- [d] 180



Solution (a)

The number of outgoing calls made by Arvind is 90.

$$\begin{aligned}\text{So, the bill} &= 250 + (90-50) (1.25) \\ &= 250 + (40) (1.25) = 250 + 50 = 300\end{aligned}$$

The bills paid by Arvind and Prasad are in the ratio 2: 3

$$\begin{aligned}&= \text{the bill paid by Prasad} = 300 (3/2) \\ &= \text{RS. 450}\end{aligned}$$

Which is greater than RS. 250

So, the number of calls Prasad made

$$\begin{aligned}&= 50 + (450-250)/1.25 \\ &= 50 + (200/1.25) \\ &= 50 + 160 = 210\end{aligned}$$

RATIO

Q.10) A student got as many marks in physics as he got in Maths. The ratio of his marks in Biology and Chemistry was 5: 7. The ratio of his marks in biology and Maths is 3: 2. If he gets an aggerate of 64 % in all the four subjects and each subject had equal maximum marks, in how many subjects has he scored more than 50 % marks?

- [a] 1
- [b] 2
- [c] 3
- [d] 4



Solution (b)

Let the marks in the subjects be P, M, B and C respectively.

Assuming maximum marks per subjects to be 100

$$B: C = 5: 7$$

$$P: M = 1: 1$$

$$\text{And } B: M = 3: 2$$

$$B: M: C = 15: 10: 21$$

$$\text{And } P: B: M: C = 10: 15: 10: 21$$

$$\begin{aligned} \text{So average marks} &= (10X + 10X + 15X + 21X) / 4 \\ &= 56X / 4 = 14X \end{aligned}$$

$$14X = 64$$

$$X = 64 / 14 = 32 / 7$$

$$= 4.57$$

$$10X = 45$$

$$15X = 68.5$$

$$21X = 96$$

Thus, the student has scored more than 50% in 2 subjects