# Banking Daily Quiz Blog - June 1



 Direction: The following table gives the student data of a college. There are a total of six departments in the college, namely, A, B, C, D, E and F, each comprising of three batches. The total number of students belonging to each department and the corresponding boy-girl ratio of each department is given in the table, but some of the information is missing. Study the table and answer the questions that follow.

| Departments | No. of students | Boy : Girl |
|-------------|-----------------|------------|
| А           | 324             | _          |
| В           | 308             | -          |
| С           | _               | 35:39      |
| D           | _               | _          |
| Е           | 216             | 5:4        |
| Е           | 296             | _          |

A. If the difference between the number of boys and girls in the department F is 4 more than 5/6 of the difference between the number of boys and girls in the department E, then find the boy-girl ratio in department F.



**E** 12 : 5

#### **Solution**

D

Let the number of boys and girls in department F be 'x' and 'y' respectively

Total no. of students in department F = 296

 $\Rightarrow x + y = 296 -----(1)$ 

No. of boys in department  $E = \frac{5}{9} \times 216 = 120$ 

No. of girls in department E = 216 - 120 = 96

Difference between no. of boys and girls in dept. E = 120 - 96 = 24

Hence,

Difference between no. of boys and girls in dept.  $F = 4 + 5/6 \times 24 = 4 + 20$ = 24

$$\Rightarrow x - y = 24 -----(2)$$

 $\Rightarrow$  x + y + x - y = 296 + 24

 $\Rightarrow 2x = 320$ 

 $\Rightarrow$  x =  $\frac{320}{2}$  = 160

Substituting in (1),

 $\Rightarrow y = 296 - 160 = 136$ 

 $\therefore$  Boy : girl in department F = x : y = 160 : 136 = 20 : 17

B. In department A, the number of students in the three batches are in the ratio 17 : 18 : 19. If the number of boys in the three batches are in the ratio 18 : 19 : 19 respectively, and the number of girls are in the ratio 16 : 17 : 19 respectively, then what is the boy-girl ratio in the whole department A?



#### **Solution**

Let the number of students in the three batches of department A be '17x', '18x' and '19x'

Total number of students in department A = 17x + 18x + 19x = 324

 $\Rightarrow 54x = 324$ 

$$\Rightarrow \mathbf{x} = \frac{324}{54} = 6$$

Now, let the no. of boys in the three batches be '18y', '19y' and '19y' Also, let the no. of girls in the three batches be '16z', '17z' and '19z' Total no. of students in first batch =  $17x = 17 \times 6 = 102$ 

 $\Rightarrow 18y + 16z = 102 -----(1)$ 

Total no. of students in second batch =  $18x = 18 \times 6 = 108$ 

 $\Rightarrow 19y + 17z = 108$  -----(2)

Total no. of students in third batch =  $19x = 19 \times 6 = 114$ 

 $\Rightarrow 19y + 19z = 114 -----(3)$ 

Subtracting (2) from (3),

 $\Rightarrow 19y + 19z - 19y - 17z = 114 - 108$ 

 $\Rightarrow 2z = 6$ 

 $\Rightarrow$  z = 3

Substituting in (3),

 $\Rightarrow 19y = 114 - 57$  $\Rightarrow y = \frac{57}{19} = 3$ 

Hence, total no. of boys in department  $A = 18y + 19y + 19y = 56y = 56 \times 3 = 168$ 

Total no. of girls in department A =  $16z + 17z + 19z = 52z = 52 \times 3 = 156$ 

 $\therefore$  Boy-girl ratio in department A = 168 : 156 = 14 : 13

C. The average number of students in the departments B and C is 302. If

the number of boys in department B is 25% more than that in department C, then find the total number of girls in departments B and C?



#### **Solution**

No. of students in department B = 308

Average no. of students in departments B and C = 302

 $\Rightarrow$  No. of students in department C + 308 = 2 × 302 = 604

 $\Rightarrow$  No. of students in department C = 604 - 308 = 296

Now, boy : girl in department C = 35 : 39

No. of boys in department  $C = \frac{35}{74} \times 296 = 140$ 

No. of girls in department C = 296 - 140 = 156

No. of boys in department B = (100 + 25)% of (No. of boys in dept. C) =  $1.25 \times 140 = 175$ 

No. of girls in department B = 308 - 175 = 133

 $\therefore$  Total no. of girls in department B & C = 156 + 133 = 289

D. The total number of girls in the college is 89 more than 75% of the total number of boys in the college. If the total number of students in the college is 30 less than 6 times the number of students belonging to department B, what is the difference between the total number of boys and girls in the college?





#### **Solution**

Let the total no. of boys and girls in the college be 'x' and 'y' respectively

: Total no. of girls = 89 + 75% of (Total no. of boys)

$$\Rightarrow y = 89 + \frac{75}{100}x$$
$$\Rightarrow y = 89 + \frac{3x}{4}$$
$$\Rightarrow 4y = 356 + 3x$$
$$\Rightarrow 4y - 3x = 356 ----(1)$$

Now, total no. of students =  $6 \times (No. of students in dept. B) - 30$ 

$$\Rightarrow$$
 x + y = 6 × 308 - 30

$$\Rightarrow$$
 x + y = 1848 - 30

$$\Rightarrow$$
 x + y = 1818 -----(2)

Multiplying (2) by 3 and adding to (1),

$$\Rightarrow 4y - 3x + 3x + 3y = 356 + 5454$$

 $\Rightarrow$  7y = 5810

 $\Rightarrow$  y =  $\frac{5810}{7}$  = 830

Substituting in (2),

2

 $\Rightarrow x = 1818 - y = 1818 - 830 = 988$ 

 $\therefore$  Required difference = x - y = 988 - 830 = 158

# E. The number of students in department D is 40% more than the

average number of students in departments A & E. If the number of girls in department D is 9 more than 150% of the girls in department E, then the number of boys in department D is how much more than 185% of the boys in department E?

| B | 3 |
|---|---|
|   |   |
| С | 4 |
|   |   |
| D | 5 |
|   |   |
| E | 6 |

#### **Solution**

Average no. of students in department A and  $E = \frac{324+216}{2} = \frac{540}{2} = 270$ No. of students in department D = (100 + 40)% of  $270 = 1.4 \times 270 = 378$ 

Boy : girl in department E = 5 : 4

No. of girls in department  $E = \frac{4}{9} \times 216 = 96$ 

No. of girls in department D = 9 + 150% of 96 = 9 + 144 = 153

Hence,

No. of boys in department E = 216 - 96 = 120

No. of boys in department D = 378 - 153 = 225

Now, let the required number be 'x'

 $\Rightarrow 225 = x + 185\%$  of 120

$$\Rightarrow 225 = x + 222$$

 $\Rightarrow$  x = 225 - 222 = 3

 $\therefore$  The no. of boys in dept. D is 3 more than 185% of boys in dept. E

What approximate value will come in the place of the question mark '?' in the following question?

#### 2. $434.68 \div 7.5 - 39.99\%$ of 129.87 = ?



#### **Solution**

434.68 ÷ 7.5 - 39.99% of 129.87 = ?

## Taking their approx. values

 $\Rightarrow$  ? = 435 ÷ 7.5 - 40% of 130

$$\Rightarrow ? = \frac{4350}{75} - \frac{40}{100} \times 130$$
$$\Rightarrow ? = 58 - 52$$
$$\Rightarrow ? = 6$$



What approximate value will come in the place of the question mark **'?' in the following question?** 

3. 130.11% of 110.04 - 220.24% of 129.88 + 24.88% of ? = 44.07% of 224.98 + 145.1% of 20.02



#### **Solution**

130.11% of 110.04 – 220.24% of 129.88 + 24.88% of ? = 44.07% of

224.98 + 145.1% of 20.02

Taking their approx. values

 $\Rightarrow$  130% of 110 – 220% of 130 + 25% of ? = 44% of 225 + 145% of 20

$$\Rightarrow \frac{130}{100} \times 110 - \frac{220}{100} \times 130 + \frac{1}{4} \times ? = \frac{44}{100} \times 225 + \frac{145}{100} \times 20$$

$$\Rightarrow 143 - 286 + \frac{?}{4} = 99 + 29$$
$$\Rightarrow \frac{?}{4} = 128 + 286 - 143$$
$$\Rightarrow ? = 271 \times 4$$
$$\Rightarrow ? = 1084$$
$$\therefore ? \approx 1085$$

What approximate value will come in the place of the question mark '?' in the following question?

# 4. 858.231 ÷ 39.345 × 74.154 – 1499.98 + 31.798 = $(2)^{?}$ × 9.879



## **Solution**

 $858.231 \div 39.345 \times 74.154 - 1499.98 + 31.798 = (2)^{?} \times 9.879$ 

## Taking their approx. values

$$\Rightarrow \frac{858}{39} \times 74 - 1500 + 32 = (2)^{?} \times 10$$

$$\Rightarrow 1628 - 1500 + 32 = (2)^{?} \times 10$$

$$\Rightarrow 128 + 32 = (2)^? \times 10$$

$$\Rightarrow \frac{160}{10} = (2)^?$$

$$\Rightarrow (2)^? = 16$$
$$\Rightarrow (2)^? = 16$$
$$\Rightarrow ? = 4$$

What approximate value will come in the place of the question mark '?' in the following question?





$$31.992 \times \frac{28.196}{6.932} + 677.993 - 320.898 = ? \times 4.889$$

Taking their approx. values

$$\Rightarrow 32 \times \frac{28}{7} + 678 - 321 = ? \times 5$$

 $\Rightarrow 32 \times 4 + 678 - 321 = ? \times 5$ 

$$\Rightarrow ? \times 5 = 128 + 678 - 321$$

$$\Rightarrow ? = \frac{485}{5}$$

$$\Rightarrow$$
 ? = 97

What approximate value will come in place of question mark (?) in the following question?



6.  $? = 8.97 - 4.05 + 9.02 \div 2.99 \times 4.04 + (1.56)^2$ 

#### **Solution**

 $? = 8.97 - 4.05 + 9.02 \div 2.99 imes 4.04 + (1.56)^2$ 

## Rewriting equation with approximate values:

$$\Rightarrow ? \approx 9 - 4 + 9 \div 3 \times 4 + (1.6)^2$$

$$\Rightarrow ? = 9 - 4 + 3 \times 4 + 2.56$$

$$\Rightarrow ? = 5 + 12 + 2.6$$

 $\Rightarrow$  ? = 19.6  $\approx$  20



