Maths Questions for CLAT Exam.
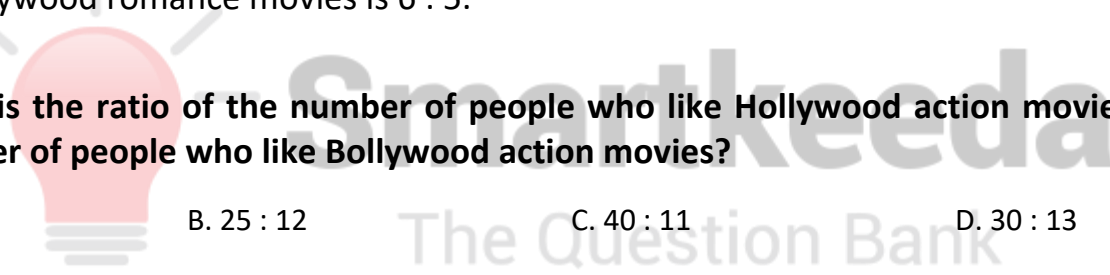
Directions : Study the following information carefully and answer the questions given beside.

A survey was conducted in a colony regarding the choice of people regarding the categories of movies they like to watch in their weekends.

The survey was conducted on 1400 peoples; the ratio of people watching Hollywood movies to the people watching Bollywood movies is 9 : 5. The people who like Hollywood comedy movies are 60 more than who like Bollywood comedy movies. People who like Hollywood action movies are 100 more than people who like Hollywood romance movies. People who like Bollywood romance movies are 140 more than people who like Bollywood action movies. The ratio of the number of people who like Hollywood romance movies to the number of people who like Bollywood romance movies is 6 : 5.

1.   **What is the ratio of the number of people who like Hollywood action movies to the number of people who like Bollywood action movies?**

A. 34 : 9   B. 25 : 12   C. 40 : 11   D. 30 : 13

2.   **What is the average of the number of people who like action and romance movies in Hollywood ?**

A. 275   B. 283   C. 265   D. None of these

3.   **The number of people who like Bollywood comedy movies is what percent of number of people who like Hollywood comedy movies?**

A. 65%   B. 56%   C. 45%   D. 70%

4.   **What is the difference between the number of people who like Hollywood action movies and the number of people who like Bollywood romance movies?**

A. 150   B. 154   C. 145   D. 165

5.   **If 25 people who voted for Bollywood romance movies changed their opinion and voted for Hollywood romance movies, now the ratio of people who like Bollywood romance movies to the people who like Hollywood romance movies will be?**

A. 11 : 14   B. 9 : 13   C. 13 : 15   D. 8 : 15

6. What is the ratio of the total number of people who like Hollywood action and comedy movies to that of people who like Bollywood action and comedy movies?

A. 5 : 12   B. 12 : 5   C. 7 : 12   D. 12 : 7

7. The number of people who like Hollywood comedy movies is what percent less than the number of people who like Bollywood romance movies?

A. 20   B. 25   C. 25.33   D. None of these

8. What is the average of the total number of people who like action and comedy movies in Bollywood?

A. 180   B. 195   C. 125   D. 160

9. What is the difference between the total number of people who like Hollywood action and romance and the total number of people who like Bollywood comedy and romance?

A. 290   B. 310   C. 350   D. 400

10. If 10% of people who like Hollywood romance movies leave the colony, what will be the new ratio of the number of people who like Hollywood romance to that of people who like Hollywood movies?

A. 3 : 10   B. 9 : 28   C. 7 : 10   D. 9 : 29

Correct Answers:

1	2	3	4	5	6	7	8	9	10
C	D	D	A	B	B	A	C	B	D

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Common explanation :

Let us represent Hollywood movies by H and Bollywood movies by B, Hollywood movies has – A_H, R_H and C_H while Bollywood has – A_B, R_B and C_B respectively.

H : B = 9 : 5

People who like Hollywood movies = 900

People who like Bollywood movies = 500

Let $C_B = x$

$C_H = x + 60$

$R_H : R_B = 6 : 5$

$R_B - A_B = 140$

Now,

In Bollywood,

$A_B + R_B + C_B = 500$

$R_B - 140 + R_B + x = 500$

$2R_B = 640 - x$ ...(i)

In Hollywood,

$A_H + R_H + C_H = 900$

$2R_H + 100 + x + 60 = 900$

$2R_H = 740 - x$ ...(ii)

$\dfrac{R_H}{R_B} = \dfrac{740 - x}{640 - x}$

$\dfrac{6}{5} = \dfrac{740 - x}{640 - x}$

x = 140

So,

Hollywood(900)			Bollywood(500)		
Action	Romance	Comedy	Action	Romance	Comedy
400	300	200	110	250	140

Answers :

1. From the common explanation, we have

The number of people who like Hollywood action movies = 400

The number of people who like Bollywood action movies = 110

Required ratio = 400 : 110 = 40 : 11

Hence, option C is correct.

2. From common explanation, we have

The number of who like Hollywood action movies = 400

The number of people who like Hollywood romance movies = 300

Reqd. average = $\dfrac{400 + 300}{2}$

= $\dfrac{700}{2}$ = 350

Hence, option D is correct.

3. From common explanation, we have

The number of people who like Bollywood comedy moves = 140

The number of people who like Hollywood comedy movies = 200

Reqd. % = $\dfrac{140 \times 100}{200}$ = 70%
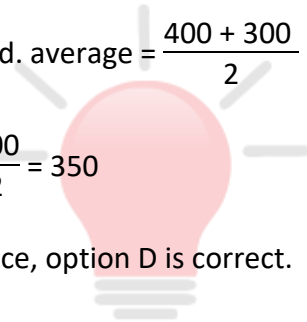
Hence, option D is correct.

4. From common explanation, we have

The number of people who like Hollywood action movies = 400

The number of people who like Bollywood romance movies = 250

Required difference = 400 − 250 = 150

Hence, option A is correct.

5. From common explanation, we have

The number of who liked Bollywood romance movies = 250

The number of people voted for Bollywood romance movies now = 250 − 25 = 225

The number of people voted for Hollywood romance movies now = 300 + 25 = 325

Required ratio = 225 : 325 = 9 : 13

Hence, option B is correct.

6. From common explanation, we have

Number of people who like Hollywood action and comedy = 400 + 200 = 600

Number of people who like Bollywood action and comedy = 110 + 140 = 250

Reqd. Ratio = 600 : 250 = 12 : 5

Hence, option B is correct.

7. From common explanation, we have

Number of People who like Hollywood comedy movies = 200

Number of people who like Bollywood romance movies = 250

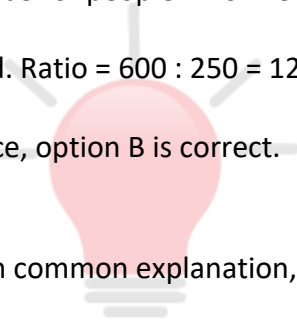Reqd. % = (250 − 200)/250 × 100 = 20%

Hence, option A is correct.

8. From common explanation, we have

Number of people who like Bollywood action = 110

Number of people who like Bollywood comedy = 140

Reqd. Average = (110+140)/2 = 125

Hence, Option C is correct.

9.   From common explanation, we have

The number of people who like Hollywood action = 400

The number of people who like Hollywood romance = 300

The number of people who like Bollywood comedy = 140

The number of people who like Bollywood romance = 250

Reqd. Difference = 400 + 300 − (250 + 140) = 310

Hence, Option B is correct.

10.   From common explanation, we have

The number of people who like Hollywood romance = 300

New number will be = (100 − 10)% of 300 = 270

The number of people who like Hollywood movies = 900

New number = 900 − (300 − 270) = 870

Reqd. ratio = 270 : 870 = 9 : 29

Hence, Option D is correct.

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