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Ratio and Proportion Questions for SSC, CLAT & CDS Exams

Ratio and Proportion Quiz 3

Directions: Kindly Study the following questions carefully and choose the right answer:

1. The ratio of zinc and copper in a brass pieces is 13 : 7. How much zinc will be there in 100 kg of such a piece?

A. 20 kg B. 5kg C. 55kg D. 65kg

2. The ratio of number of men and women in a factory of 720 workers is 7 : 5. How many more women should be joined to make the ratio 1 : 1?

A. 80 B. 100 C. 120 D. 150

3. What is the ratio whose terms differ by 40 and the measure of which is 2/7 ?

A. 12 : 56 B. 16 : 56 C. 23 : 58 D. None of these

4. 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 is

A. 4 : 3 B. 3 : 4 C. 1 : 1 D. 2 : 3

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5. In a certain school, the ratio of boys to girls is 7 : 5. If there are 2400 students in the school, then how many girls are there?

A. 500 B. 700 C. 800 D. 1000

6. If A : B = 2 : 3, B : C = 5 : 7 and C : D = 3 : 10, then what is A : D equal to?

A. 1 : 7 B. 2 : 7 C. 1 : 5 D. 5 : 1

7. Zinc and copper are in the ratio 5 : 3 in 400 gm of an alloy. How much of copper (in grams) should be added to make the ratio 5 :4?

A. 50 B. 66 C. 72 D. 200

8. 60 percent of first number is equal to 40 percent of the second number. What is the respective ratio of the first number to the second number?

A. 2 : 3 B. 21 : 31 C. 7 : 10 D. Can’t be determined

9. What must be added to each term of the ratio 2 : 5 so that it may equal to 5 : 6 ?

A. 65 B. 78 C. 13 D. 12

10. Gold is 15 times as heavy as water and copper is 7 times as heavy as water in what ratio should these be mixed to get an alloy 13 times as heavy as water?

A. 2 : 5 B. 3 : 1 C. 1 : 3 D. None of these

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Correct Answers:

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

Explanations:

1.

Amount of zinc = $\left(100 \times \frac{13}{20}\right)$ kg = 65kg.

Hence, option D is correct.

2.

Number of men = $\left(720 \times \frac{7}{12}\right)$ = 420.

Number of women = (720 - 420) = 300.

∴ Number of women to be joined = (420 - 300) = 120.

Hence, option C is correct.

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3.

Traditional Method:

Let the ratio be x : (x + 40).

Then, $\frac{x}{x+40} = \frac{2}{7} \Leftrightarrow 7x = 2x + 80 \Leftrightarrow x = 16$.

∴ Required ratio is 16 : 56.

Smarter Approach1;

Pick one option and check whether it satisfies the given condition or not. The one that satisfies will be the answer.

Option A: $\frac{12}{56}$

gets eliminated because the difference between the terms is not 40.

Option B: $\frac{16}{56}$

is the correct answer because the difference between the terms is 40 and

its measure is also $\frac{2}{7}$.

Smarter Approach 2:

Step 1: Take the difference between the terms of given ratio $\frac{2}{7}$.

7 ~ 2 = 5

Step 2: Divide the actual given difference between the term by the resultant we got in step 1.

$\frac{40}{5}$ = 8

Step 3: Take this quotient as a multiple and multiply it into the numerator and the denominator part of the given ratio to get the actual ratio.

$\frac{2 \times 8}{7 \times 8} = \frac{16}{56}$

Hence, option B is correct.

4.

From the equation, we get

5% of A + 4% of B = 2 (6% of A + 8% of B)

3

⇒ 15% of A + 12% of B = 12% of A + 16% of B

⇒ [15 – 12] % of A = [16 – 12] % of B

⇒ 3 % of A = 4% of B

⇒ A = 4

B3

Therefore, A : B = 4 : 3.

Hence, option A is correct.

5.

Let the number of boys and girls are 7x and 5x, respectively.

Given, total number of students = 2400

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$\Rightarrow 7x + 5x = 2400 \Rightarrow 12x = 2400$

$\therefore \quad x = 200$

$\therefore$ Required number of girls $= 5x = 5 \times 200 = 1000.$

Hence, option D is correct.

6.

Given A : B = 2 : 3, B : C = 5 : 7 and C : D = 3 : 10

$\therefore \quad A = A \times B \times C = 2 \times 5 \times 3 = 1$

DBCD37107

$\therefore$ A : D = 1 : 7.

Hence, option A is correct.

7.

In 400 gm alloy,

Zinc $= 5 \times 400 = 250$ gm, Copper = 400 – Zinc = 150 gm

8

If x gm of copper be mixed, then

$\Rightarrow \quad 250 = 5$

150 + x4

$\Rightarrow 750 + 5x = 1000$

$\Rightarrow 5x = 1000 – 750 = 250$

$\Rightarrow x = 50$ gm.

Hence, option A is correct.

8.

Let the first number be x and the second number be y.

According to the question,

60% of x = 40% of y $\Rightarrow$ x = 40

y60

So, required ratio = x : y = 2 : 3.

Hence, option A is correct.

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9.

Let's supposed added number be x. Then, the equation will be

2 + x = 5

5 + x6

⇒ 12 + 6x = 25 + 5x

Required number = x = 13.

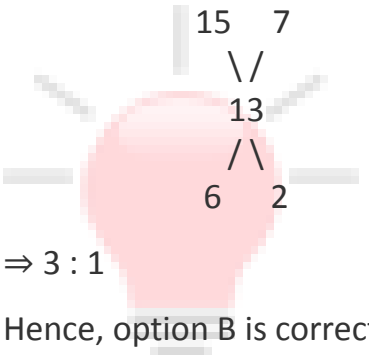
Hence, option C is correct.

10.

Gold = 15 water

Copper = 7 water

By alligation–



⇒ 3 : 1

Hence, option B is correct.

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