



Date : 15th Jan 2024

Quantitative Aptitude - Ratios and Proportion

English

Q:1 The ratio of males and females in an office who drive car is 5 : 6 and bike is 7 : 3. 20% of the staff in the office drives neither car nor bike. 72 females drive bikes, which is half the number of females who drive a car. Find the total number of staff in the office.

1. 720
2. 620
3. 650
4. 580
5. 630

Q:2 A lady has three different denominations of coins i.e. Rs 1, Rs 5 and Rs 10 in the ratio 2 : 5 : 10. She has a total Rs 635. Calculate the number of coins respectively.

1. 10, 25, 50
2. 10, 35, 50
3. 10, 25, 31
4. 11, 25, 50
5. 10, 24, 56

Q:3 The ratio of the number of novels published by a writer in Hindi to Urdu is 25 : 16 and the ratio of the number of novels published by him in Urdu to English are 8 : 11. If the difference between the number of novels published in Hindi and English is 27, then what is the total number of novels published by the writer?

1. 327
2. 492
3. 668
4. 584
5. 567

Q:4 The ratio of ages of Gaurav, Shyam and Hari are 4 : 7 : 9. Eight years ago the sum of their ages was 56. Find their present ages.

1. 16, 30, 28
2. 28, 16, 30
3. 16, 28, 36
4. 14, 20, 28
5. 28, 18, 36

Q:5 The lengths of sides of a triangle are in the ratio 3 : 4 : 5. If the perimeter of the triangle is 72 cm, find the length of the largest side.

1. 24 cm
2. 18 cm
3. 32 cm

4. 30 cm

5. 35 cm

Q:6 A, B and C together started a business where total investment of A and B is Rs. 4800. After a year A and B received Rs. 2000, and Rs. 1000 respectively out of the total profit of Rs. 4500. Find the initial investment of C (in Rs.).

1. Rs. 1600
2. Rs. 2000
3. Rs. 2400
4. Rs. 3000
5. None of these

Q:7 A and B together started a business with the initial investment in the ratio of 4 : x, respectively. If the profit earned by B is Rs. 3600 out of the total profit of Rs. 8400, then find the value of 'x'.

1. 1
2. 7
3. 3
4. 5
5. None of these

Q:8 The ratio of age of Rahul and Vimal 4 years ago is 4 : 3. The ratio of sum and difference of their present age is 9 : 1. What will be the age of Vimal after 4 years?

1. 16 years
2. 20 years
3. 18 years
4. 22 years
5. None of these

Q:9 Two numbers are in the ratio 7 : 9. If 12 is subtracted from each of them, the ratio becomes 3 : 5. The product of the numbers is:

1. 569
2. 484
3. 425
4. 567
5. 577

Q:10 The ratio of present ages of A and B is 3 : 4, respectively. If the present age of B had been 20% more, then the difference between the ages of A and B would be 18 years. What is the present age of A?

1. 24 years

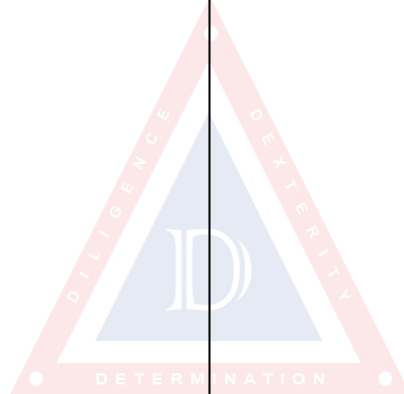


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2. 15 years
3. 18 years
4. 21 years
5. None of these





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Answer Key

1. (5)	2. (1)	3. (5)	4. (3)	5. (4)
6. (3)	7. (3)	8. (2)	9. (4)	10. (5)

Answers and Solutions

Q:1 The correct answer is **option 5** i.e. **630**.

Given:

72 females drive bike and it is half of the number of females who drive car

So, Number of females who drive car = $(72 \times 2) = 144$

The ratios of males and females in an office who drive a car and bike are 5 : 6 and 7 : 3

So, Number of males who drive bike = $72 \times 7/3 = 168$

Number of males who drive car = $144 \times 5/6 = 120$

20% of the staff in the office drive neither a car nor a bike.

Total staff who drive either car or bike = $120 + 144 + 168 + 72 = 504$

Hence, Total staff = $504/0.8 = 630$

Q:2 The correct answer is **option 1** i.e. **10, 25, 50**

Ratio of coins = 2 : 5 : 10

Let she have 2x, 5x, 10x coins of Rs 1, Rs 5, Rs 10 respectively

In total she has Rs 635

So $2x \times 1 + 5x \times 5 + 10x \times 10 = 635$

$\Rightarrow 2x + 25x + 100x = 635$

$\Rightarrow 127x = 635$

$\Rightarrow x = 5$

Total number of Rs. 1 coins = $5 \times 2 = 10$

Total number of Rs 5 coins = $5 \times 5 = 25$

Total number of Rs. 10 coins = $10 \times 5 = 50$

Q:3 The correct answer is **Option 5** i.e. **567**

Ratio of number of novels published in Hindi, Urdu and English = $(25 \times 8) : (8 \times 16) : (16 \times 11) = 25 : 16 : 22$

Let the number of novels published in Hindi, Urdu, and English be '25x', '16x', and '22x' respectively.

According to the question:

$\Rightarrow 25x - 22x = 27$

$\Rightarrow x = 9$

Total novels published by the writer = $25x + 16x + 22x$

$\Rightarrow 63x = 567$

Q:4 The correct answer is **option 3** i.e. **16, 28, 36**

Let the present ages be 4A, 7A, 9A

According to question

$\Rightarrow (4A - 8) + (7A - 8) + (9A - 8) = 56$

$\Rightarrow 20A = 80$

$\Rightarrow A = 4$

Present ages

Gaurav = $4 \times 4 = 16$

Shyam = $7 \times 4 = 28$

Hari = $9 \times 4 = 36$

Q:5 The correct answer is **Option 4** i.e. **30cm**

Let the sides of the triangle = 3p, 4p, and 5p

$\Rightarrow (3p + 4p + 5p) = 72$

$\Rightarrow p = 6$

Sides = 18, 24, 30

Thus largest side = 30 cm

Q:6 The correct answer is **option 3** i.e. **Rs. 2400**.

The ratio of Profit share of A : B : C = 2000 : 1000 : (4500 - 2000 - 1000)

= 2000 : 1000 : 1500 = 4 : 2 : 3

Therefore, initial investment of C = $[3/(4 + 2)] \times 4800 = \text{Rs. } 2400$

Q:7 The correct answer is **option 3** i.e. **3**.

According to question,

We know that for equal time,

Ratio of profits = Ratio of investments

$\Rightarrow (8400 - 3600)/3600 = 4/x$

$\Rightarrow 4800/3600 = 4/x$

$\Rightarrow x = 3$

Q:8 The correct answer is **option 2** i.e. **20 years**

Let present age of Rahul be x

And present age of Vimal be y

4 years ago, ratio of age = 4 : 3

i.e. $(x - 4)/(y - 4) = 4/3$

$3x - 12 = 4y - 16$

$4y - 3x = 4$ ----- (1)

Also, ratio of sum and difference of their present age = 9 : 1

i.e. $(x + y)/(x - y) = 9/1$

$x + y = 9x - 9y$

$10y = 8x$

or, $5y = 4x$ ----- (2)

Solving equation (1) & (2):



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$y = 16$ years

$x = 20$ years.

Hence, present age of Vimal is 16 years

So, after 4 years, age of Vimal will be $(16 + 4) = 20$ years

Q:9 The correct answer is **Option 4** i.e. **567**

Given, Ratio of two numbers = $(7/9)$

Let the 2 numbers = $7a$ and $9a$

$$(7a - 12)/(9a - 12) = (3/5)$$

$$\Rightarrow 5 \times (7a - 12) = 3 \times (9a - 12)$$

$$\Rightarrow 35a - 60 = 27a - 36$$

$$\Rightarrow 8a = 24$$

$$\Rightarrow a = 3$$

Hence the numbers = 21 and 27

$$\Rightarrow \text{Product} = 21 \times 27 = \mathbf{567}$$

Q:10 The correct answer is **option 5** i.e. **None of these.**

Let the present age of A and B be $3x$ and $4x$ years, respectively.

According to the question,

$$\Rightarrow 1.2 \times 4x - 3x = 18$$

$$\Rightarrow 4.8x - 3x = 18$$

$$\Rightarrow 1.8x = 18$$

$$\Rightarrow x = 1.8/1.8 = 10$$

Therefore, present age of A = $3x = 30$ years

