



# MATHS

## BOOKS - HT Olympiad Previous Year Paper

### RATIO AND PROPORTION

#### Mathematical Reasoning

1. The middle terms, if four different numbers are in proportion are called \_\_\_\_\_.

A. Antecedents

B. Means

C. Extremes

D. Consequents

**Answer: B**



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2. Divide 912 into three parts in the ratio  
2:3:7.

A. 154, 220, 590

B. 152, 228, 532

C. 740, 228, 532

D. 152, 245, 595

**Answer: B**



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**3.** Find  $m$ , if four numbers  $m$ , 24, 72, 96 are in proportion.

A. 12

B. 36

C. 18

D. 26

**Answer: C**



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4. If  $p:q :: r:s$ , then the correct statement is

\_\_\_\_\_.

A.  $qr = ps$

B.  $pqr = s$

C.  $qrs = p$

D.  $pq = rs$

**Answer: A**



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5. An equality of two ratios is called \_\_.

A. Extremes

B. Consequents

C. Antecedents

D. Proportion

**Answer: D**



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**6.** Share of A, B and C respectively are \_\_\_\_\_ . If

Rs. 5460 is divided in the ratio  $\frac{1}{2} : \frac{1}{3} : \frac{1}{4}$ .

A. Rs. 1680, Rs. 2520, Rs. 1260

B. Rs. 2520, Rs. 1680, Rs. 1260

C. Rs. 1260, Rs. 2100, Rs. 2520

D. Rs. 2520, Rs.1260, Rs. 1680

**Answer: B**



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7. The ratio of 80 cm to 3.5 m is equal to

A. 190 cm : 7 cm

B.  $8\text{cm} : 35\text{cm}$

C. 160 cm : 7 cm

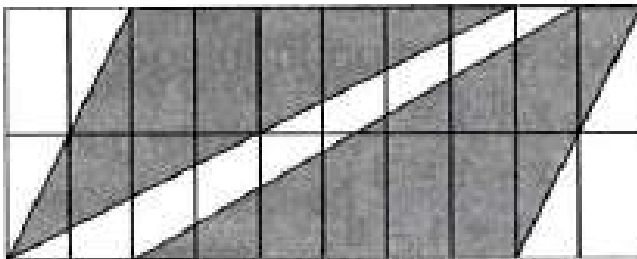
D. 180 cm : 7 m

**Answer: B**



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**8.** What is the ratio of the shaded area to the unshaded area?





A. 5: 7

B. 3: 4

C. 7: 10

D. 7: 3

**Answer: D**



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9. Which of the following is equivalent to 7: 8 ?

A. 142: 128

B. 112: 124

C. 136: 116

D. 119: 136

**Answer: D**



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**10.** If  $x : y = 4 : 5$ , then  $(4x + 5y) : (5x - 2y)$  is equal to \_\_\_\_\_ .

A. 41: 10

B. 4: 5

C. 16: 25

D. 3: 10

**Answer: A**



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**11.** Ratio is a method of comparing two quantities by \_\_\_\_\_ .

A. Addition

B. Subtraction

C. Division

D. Multiplication

**Answer: C**



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**12.** The antecedent and consequent of a ratio \_\_\_\_\_ changed unless there is a change in the given statements.

A. Can be

B. Cannot be

C. Sometimes

D. None of these

**Answer: B**



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**13.** In the word COMPARISON, the ratio of number of consonants to the number of vowels is \_\_\_\_\_ .

A. 4: 7

B. 7: 4

C. 6: 4

D. 4: 6

**Answer: C**



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**14.** Which of the following are not in proportion?

A. 7:12 and 805:1380

B. 16:28 and 4:7

C. 150:100 and 135:90

D. 51:85 and 57:98

**Answer: D**



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15. The ratio which  $\left(\frac{1}{3} \text{ of Rs. } 9.30\right)$  bears to

(0.6 of Rs.1.55) is

A. 1 : 3

B. 10 : 3

C. 3 : 10

D. 3 : 1

**Answer: B**



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**Everyday Mathematics**



1. The ratio of the quantity of water in Bottle P to the quantity of water in Bottle Q is 3:4. Rajeev drank 40 ml of the water from Bottle P and the ratio then became 13:20. How much water was there in Bottle P at first?

A. 60 mL

B. 80 mL

C. 300 mL

D. 400 mL

**Answer: C**



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2. If cost of a candy is 50 paise and cost of an ice cream is Rs. 20, then the ratio of the cost of a candy to the cost of an ice-cream is\_\_\_\_\_ .

A. 40 : 1

B. 1 : 40

C. 1 : 20

D. 1 : 15

**Answer: B**



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3. A pole is cut into two pieces in the ratio 8 : 9. If the total length is 1615 m, then find the length of smaller part.

A. 420 m

B. 670 m

C. 760 m

D. 940 m

**Answer: C**



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4. In a cricket coaching camp, 1200 children are trained. Out of which 900 are selected for various matches. Ratio of non-selected children to the total number of children is \_\_\_\_\_ .

A. 300: 120

B. 4: 1

C. 1: 4

D. 120 : 300

**Answer: C**



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5. In a quiz programme, the ratio of correct answers to incorrect answers is 5:2. If a student gives 16 incorrect answers, then the number of correct answers given is \_\_\_\_\_ .

A. 80

B. 40

C. 20

D. 30

**Answer: B**



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**6.** The price of a table and a chair are in the ratio 7:5. If a table costs Rs. 480 more than the chair, then the price of the chair is\_\_\_\_\_ .

A. Rs. 600

B. Rs. 1000

C. Rs. 1200

D. Rs. 1800

**Answer: C**



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7. A bag contains one rupee, two rupees and 50 paise coins in the ratio 5:6:8. If the total

amount is Rs.420, then find the total number of coins.

A. 798

B. 789

C. 978

D. 987

**Answer: A**



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8. The weights of three iron rods are in the ratio 3:7:10. The weight of the heaviest one is 2 kg 650 g. Find the total weight of the three iron rods.

A. 4 kg 700 g

B. 5 kg 300 g

C. 7 kg 900 kg

D. 4 kg 900 kg

**Answer: B**



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9. Cost of 4 dozen of bananas is Rs. 60. The number of bananas purchased for Rs. 22.50 will be.

A. 12

B. 18

C. 10

D. 14

**Answer: B**





10. A profit of Rs. 3000 is shared among X, Y and Z in the ratio 2:3:1. How much more money does Y get than X?

A. Rs. 1000

B. Rs. 1600

C. Rs. 500

D. Rs. 800

**Answer: C**



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## Achievers Section Hots

1. Divide Rs. 3010 among A, B, C respectively in such a way that A gets double of what B gets and B gets double of what C gets.

A. Rs. 1720, Rs. 860, Rs. 430

B. Rs. 1640, Rs. 920, Rs. 450

C. Rs. 1690, Rs. 825, Rs.495

D. Rs. 1800, Rs. 400, Rs. 810

**Answer: A**



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2. A sum of Rs. 3690 is divided among P, Q, R

and S such that

$$\frac{P's\ share}{Q's\ share} = \frac{Q's\ share}{R's\ share} = \frac{R's\ share}{S's\ share} = \frac{4}{5}.$$

Then, Q's share is \_\_\_\_\_ .

A. Rs.1250

B. Rs. 1000

C. Rs. 640

D. Rs. 800

**Answer: D**



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3. If  $a : b = c : d$ , then  $\frac{ma + nc}{mb + nd}$  is not equal

to:

A.  $m : n$

B.  $na : mb$

C.  $a : b$

D.  $md : nc$

**Answer: C**



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**4.** State 'T' for true and 'F' for false.

(i) 12 hours : 30 hours = 8 km : 20 km

(ii) The ratio of 1 hour to one day is 1 : 1.

(iii) The two terms of a ratio can be in two

different units.

	(i)	(ii)	(iii)
(A)	T	T	T
(B)	F	F	F
(C)	T	F	F
(D)	F	T	F



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## 5. Match the following.

Column-I	Column-II
(P) A box contains 80 bulbs, 15 were found to be defective. The ratio of non-defective to defective bulbs is _____.	(i) 7 : 2
(Q) Aman is $3\frac{1}{2}$ times as old as Karan. The ratio of Aman's age to Karan's age is _____.	(ii) 7 : 3
(R) Shanaya earns ₹ 35000 per month and saves ₹ 15000 per month. The ratio of her earnings to her savings per month is _____.	(iii) 13 : 3

A. (P)  $\rightarrow$  (ii), (Q)  $\rightarrow$  (i), (R)  $\rightarrow$  (iii)

B.  $(P) \rightarrow (i), (Q) \rightarrow (iii), (R) \rightarrow (ii)$

C.  $(P) \rightarrow (iii), (Q) \rightarrow (i), (R) \rightarrow (ii)$

D.  $(P) \rightarrow (ii), (Q) \rightarrow (iii), (R) \rightarrow (i)$

**Answer: C**



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