MATHS

BOOKS - NAND LAL PUBLICATION

RATIO AND PROPORTION

Solution Of Textual Questions Try These

1. In the class there are 20 boys and 40 girls. What is the ratio of the number of boys to the number of girls?

2. Ravi walks 6 km in an hour while Roshan walks 4 km in an hour. What is the ratio of the distance covered by Ravi to the distance covered by Roshan?

3. Saurabh takes 15 minutes to reach school from his house and Sachin takes one hour to

reach the school from his house. Find the ratio of the time taken by Saurabh to the time taken by Sachin.

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4. Cost of a toffee is 50 paise and cost of a chocolate is Rs 10. Find the ratio of the cost of a toffee to the cost of a chocolate.

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5. In a school,there were 73 holidays in one year.What is the ratio of the number of holidays to the number of days in one year?

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6. Divide Rs 1250 between Anuj and Amit in the ratio $2:3$

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7. Two numbers are in the ratio $4:5$. If the sum of the numbers is 135 find the numbers.

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8. Share a profit of Rs 30,000 between A a nd B in the ratio $5:3$

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9. Find the ratio of number of note books to the number of books in your bags.

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10. Find the ratio of number of desks and chairs in your classroom.

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11. Find the number of students above 12 years of age in your class. Then find the ratio of students with age above 12 years and the remaining students.

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12. Find the ratio of number of doors and number of windows in your class room.

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13. Draw any rectangle and find the ratio of the lengths to its breadth.

14. Check whether the given ratios are equal,i.e., they are in proportion.If yes,then write them in the proper form.

$1 : 5$ and $3 : 15$

15. Check whether the given ratios are equal,i.e., they are in proportion.If yes,then write them in the proper form.

$2:9$ and $18:81$

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16. Check whether the given ratios are equal,i.e., they are in proportion.If yes,then write them in the proper form.

$15:45$ and $5:25$

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17. Check whether the given ratios are equal,i.e., they are in proportion.If yes,then write them in the proper form.

$4:12$ and $9:27$

18. Check whether the given ratios are equal,i.e., they are in proportion.If yes,then write them in the proper form.

Rs.10 to Rs.15 and 4 to 6.

19. The cost of 15 metres of cloth is Rs 450. Find the cost of 1 metre of cloth.

20. The weight of 5 folding chairs is 10 kg. Find the weight of one such chair.

21. A scooter requires 3 litres of petrol to cover 120 km.

How much petrol is required to cover 1 km?

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22. A worker is paid Rs 350 for 5 days. What should he paid for 20 days.

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23. An aeroplane flies 4500 km in 5 hours. How far does it travel in 4 hours?

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1. There are 20 girls and 15 boys in a class. What is the ratio of nuymber of girls to the number of boys?

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2. There are 20 girls and 15 boys in a class. What is the ratio of number of girls to the total number of students in the class?

3. Out of 30 students in a class,6 like football,12 like cricket and remaining like tennis.Find the ratio of :

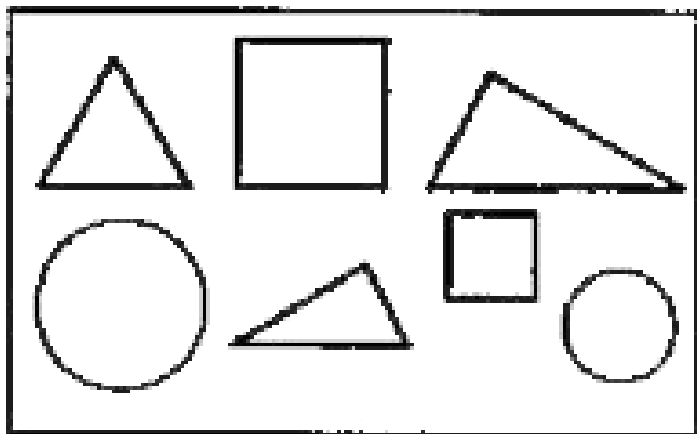Number of student liking football to number of students liking tennis.

4. Out of 30 students in a class,6 like football,12 like cricket and remaining like tennis.Find the ratio of :

Number of students liking cricket to total number of students.

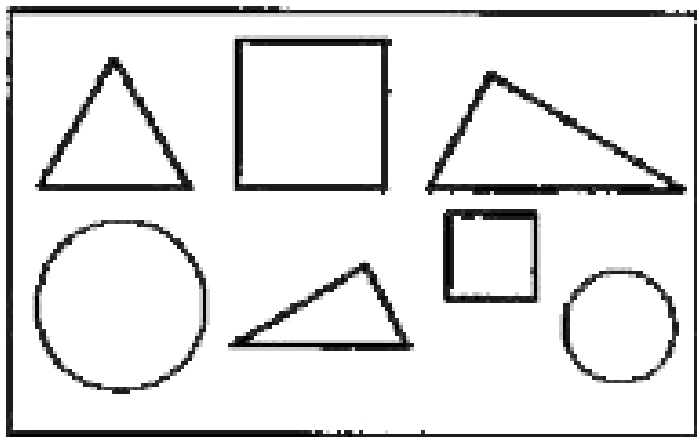**5.** See the fgure and find the ratio of Number of triangles to the number of cirlces inside the rectangle.
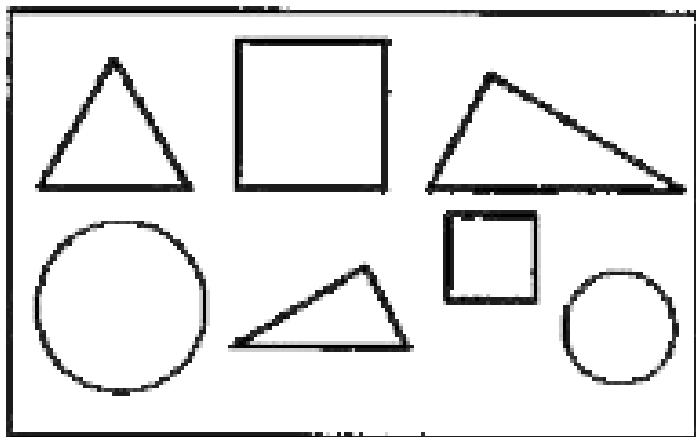
6. See the fgure and find the ratio of Number of suqares to all the figure inside the rectangle.

7. See the fgure and find the ratio of Number of cirlces to all figures inisde the rectanlge.

8. Distance tavelled by Hamid and Akhtar in an hour are 9 km and 12 km.Find the ratio of speed of Hamid to the speed of Akhtar.

9. Fill in the following blanks:

$$\frac{15}{18} = \frac{\square}{6} = \frac{10}{\square} = \frac{\square}{30}$$

10. Find the ratio of the following :

$81 \rightarrow 108$

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11. Find the ratio of the following :

$98 \rightarrow 63$

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12. Find the ratio of the following :

$33km \rightarrow 121km$

13. Find the ratio of the following

30 minutes to 60 minutes

14. Find the ratio of the following

30 minutes to 2 hours

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15. Find the ratio of the following

40 cm to 1m

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16. Find the ratio of the following

50 paise to Rs 1

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17. Find the ratio of the following

500 ml to 3 litres

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18. In a year,Seema earns Rs.1,50,000 and saves

Rs 50,000.Find the ratio of :

Money that Seema earns to the money she

saves.

19. In a year,Seema earns Rs.1,50,000 and saves

Rs 50,000.Find the ratio of :

Money that she saves to the money she

spends.

20. There are 102 teachers in a school of 3300 students.Find ratio of the number of teachers to the numbe of students.

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21. In a college out of 4320 tudents,2300 are girls.Find the ratio of :

Number of girls to the total number of students.

22. In a college out of 4320 tudents,2300 are girls.Find the ratio of :

Number of boys to the number of girls.

23. In a college out of 4320 tudents,2300 are girls.Find the ratio of :

Number of boys to the total number of students.

24. Out of 1800 students in a school,750 opted basketball,800 opted cricket and remaining opted table tennis.If a student can opt only one game,find the ratio of:

Number of students who opted basketball to the total number of students.

25. Out of 1800 students in a school,750 opted basketball,800 opted cricket and remaining opted table tennis.If a student can opt only one game,find the ratio of:

Number of students who opted basketball to the total number of students.

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26. Out of 1800 students in a school,750 opted basketball,800 opted cricket and remaining

opted table tennis.If a student can opt only one game,find the ratio of:

Number of students who opted basketball to the total number of students.

27. Cost of a dozen pens is Rs.180 and cost of 8 ball pens is Rs.56 .Find the ratio o fcost of a pen to the cost of a ball pen.

28. Consider the statement:Ratio of breadth and length of a hall is 2 : 5.Complete the following table that shows some possible breadth and lengths of the hall.

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29. Divide 20 pens between Sheela and Sangeeta in the ratio of 3:2.

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30. Mother wants to divide Rs.36 amount her daughters Shreya and Bhoomika in the ratio of their ages.If age of Shreya is 15 years and age of Bhoomika is 12 years,find how much Shreya and Bhoomika will get.

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31. Present age of father is 42 years and his son 14 years.Find the ratio of:

Present age of father to the present age of son.

32. Present age of father is 42 years and his son 14 years.Find the ratio of:

Age of the father to the age of son,when son was 12 years old.

33. Present age of father is 42 years and his son 14 years. Find the ratio of:

Age of father after 10 years to the age of son after 10 years.

34. Present age of father is 42 years and his son 14 years.Find the ratio of:

Age of father to the age of son when father was 30 years old.

1. Determine if the following are in proportion:

$15, 45, 40, 120$

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2. Determine if the following are in proportion:

$33, 121, 9, 96$

  ▶ **Watch Video Solution**

3. Determine if the following are in proportion:

$24, 28, 36, 48$

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4. Determine if the following are in proportion:

$32, 48, 70, 210$

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5. Determine if the following are in proportion:

4, 6, 8, 12

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6. Determine if the following are in proportion:

33, 44, 75, 100

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7. Write True (T) or False(F) against each of the following statements:

$16 : 24 : : 20 : 30$

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8. Write True (T) or False(F) against each of the following statements:

$21 : 6 : : 35 : 10$

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9. Write True (T) or False(F) against each of the following statements:

$12:18::28:12$

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10. Write True (T) or False (F) against each of the following statements.

$8:9=16:18$

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11. Write True (T) or False(F) against each of the following statements:

$5.2 : 3.9 : : 3 : 4$

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12. Write True (T) or False(F) against each of the following statements:

$0.9 : 0.36 : : 10 : 4$

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13. Are the following statements true?

40 persons:200 persons=Rs.15:Rs.75

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14. Are the following statements true?

$$7.5 litres : 15 litres = 5 kg : 10 kg$$

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15. Are the following statements true?

$$99kg : 45kg = Rs.44 : Rs.20$$

16. Are the following statements true?

$$32m : 64m = 6\sec : 12\sec$$

17. Are the following statements true?

$45km : 60km = 12hours : 15hours.$

18. Determine if the following ratios from a proportion.Also,write the middle terms and extreme terms where the ratios form a proportion.

25 cm:1 m and Rs.40 : Rs.160

19. Determine if the following ratios from a proportion.Also,write the middle terms and extreme terms where the ratios form a proportion.

39 litres:65 litres abnd 6 bottles:10 bottles

20. Determine if the following ratios from a proportion.Also,write the middle terms and extreme terms where the ratios form a

proportion.

2kg:80 kg and 25 g:625 g.

21. Determine if the following ratios from a proportion.Also,write the middle terms and extreme terms where the ratios form a proportion.

200 ml:2.5 litre and Rs.4:Rs.50.

1. If the cost of 7m of cloth is Rs.294,find the cost of 5m of cloth.

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2. Ekta earns Rs.1500 in 10 days.How much she will earn in 30 days?

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3. If it has rained 276 mm in the last 3 days,how many cm of rain will fall in one full week (7 days)?Assume that the rain continues to fall at the same rate.

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4. Shaina pays Rs.7500 as rent for 3 months.How much does she have to pay for a whole year,if the rent per month remains same?

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5. Cost of 4 dozens of banana is Rs.60.How many bananas can be purchased for Rs.12.50.

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6. the weight of 72 books is 9 kg.What is the weight of 40 such books?

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7. A truck requires 108 liters of diesel for covering a distance of 594 km.How much diesel will be required by the truck to cover a distance of 1650 km?

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8. Raju purchases 10 pens for Rs.150 and Manish buys 7 pens Rs.84 .Can you say who got the pens cheaper?

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9. Anish made 42 runs in 6 overs and Anup made 63 runs in 7 overs.Who made more runs per over?

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1. For a ratio to be meaningful the terms should have

A. Same unit

B. Same value

C. Same factor

D. none of these

Answer: A

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2. If 2, 3, 4, x are in proportion then value of x =

_____.

A. 6

B. 8

C. 5

D. none of these

Answer: A

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3. $a:b::c:d$ then the proportion not implied

is

A. $b:a::c:d$

B. $a:c::b:d$

C. $b:a::d:c$

D. none of these

Answer: A

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4. The ratio of 5 m to 10 km is :

A. $100:3$

B. $3 : 100$

C. $1 : 3$

D. none of these

Answer: B

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5. The ratio equivalent to $3 : 7$

A. $9 : 21$

B. $7 : 3$

C. $6:14$

D. none of these

Answer: A

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6. If p, q, r, s are in proportion then $\dfrac{p}{q}$ is equal

to

A. $\dfrac{r}{s}$

B. $\dfrac{s}{r}$

C. $\dfrac{q}{r}$

D. none of these

Answer: A

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7. Ratio of 4 days to 4 hours is

A. $4:4$

B. $24:4$

C. $96:4$

D. none of these

Answer: C

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8. The ratio of apples to pear in the basket is

$7:5$. Then the total number of fruits in the

basket are

A. 22

B. 23

C. 24

D. none of these

Answer: C

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9. State whether the following statements are

True or False.

Ratio $a : b$ is equal to $b : a$

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10. State whether the following statements are True or False.

The ratio $a : b$ is said to be in simplest form if H.C.F. of a, and b is 1

11. State whether the following statements are True or False.

The unit of ratio is same as that of its terms

12. State whether the following statements are True or False.

Ratio is possible between Rs 20 and 12 m

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13. State whether the following statements are True or False.

Ratio can be expressed as fraction-

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14. State whether the following statements are True or False.

If the four terms are in proprtion then the product of the first two is equal to the product of the last two-

15. State whether the following statements are True or False.

Comparison by division is called Ratio

16. Fill in the blanks.

In the ratio $a : b$ the first is known as the _____ .

17. Fill in the blanks.

When four quantities are in proportion, the product of the _____ is equal to the product of the ___ .

18. Fill in the blanks.

The second and fourth term of the ratio cannot be ____.

19. Fill in the blanks.

Ratio $a : b$ and $b : a$ cannot be ____.

20. Fill in the blanks.

Comparing two quantities expressed in same units is called ____.

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21. Fill in the blanks.

Equality of two ratios is _____.

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22. Fill in the blanks.

Method of finding the required value by first finding it for 1 units is _____.

23. Fill in the blanks.

It two terms of the ratio have no common factor (except 1) then the ratio is said to be in _____.

1. Write the extreme term in the following

3, 5, 18, 30

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2. Write the extreme term in the following

1, 2, 3, 6

▶ **Watch Video Solution**

3. Write the extreme term in the following

4, 1, 8, 2

▶ **Watch Video Solution**

4. Write the extreme term in the following

9, 6, 15, 10

▶ **Watch Video Solution**

5. Write the mean term in the following

4, 8, 16, 32

▶ **Watch Video Solution**

6. Write the mean term in the following

15, 45, 25, 75

▶ **Watch Video Solution**

7. Write the mean term in the following

1, 5, 3, 15

> ▶ **Watch Video Solution**

8. Write the mean term in the following

10, 15, 4, 6

> ▶ **Watch Video Solution**

9. Compare the following ratios

$1:5$ and $3:5$

▶ **Watch Video Solution**

10. Compare the following ratios

$4:3$ and $6:5$

▶ **Watch Video Solution**

11. Compare the following ratios

$7:9$ and $11:14$

12. Compare the following ratios

$10:3$ and $20:6$

13. Find the value of unknown if the given terms are in proportion.

$$18 : 24 = x : 20$$

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14. Find the value of unknown if the given terms are in proportion.

$$x : 4 = 15 : 12$$

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15. Find the value of unknown if the given terms are in proportion.

$9 : 6 = x : 10$

Additional Questions For Practice Long Answer Type Answers

1. The ratio of blue to green marbles in basket A is $2 : 3$. The ratio of blue to green marbles in basket B is also same. It there are 18 blue

marbles in basket B. How many green marbles are there in basket B. Find the number of green marbles in basket A.

2. Ritvik covers a distance of 360 km at a speed of 120km/hr. White Arham covers the same distance at a speed of 90km/hr. Find the ratio of their time taken.

1. Priya spends 3 times as much as Reena. What is the ratio of Reema's expenses to that of Priya.

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2. if $\dfrac{a}{b} = \dfrac{a}{d}$ what must be true

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3. A can travel 48 km in 12 hours and 80 km in 16 hours. Find whether the distance travelled and time taken are in proportion.

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4. Mr. Nagrani earns Rs 10500 in a week. How much will he earn in 20 days?

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Sample Paper For Practice

1. Find the number which has the same ratio to 32 as 18 has to 24?

2. Simplify the ratio $2\dfrac{1}{3} : 3\dfrac{1}{2}$.

3. Find the mean proportional between 4 and 16.

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4. If the monthly salary of a person is Rs A. His monthly expenses is Rs B. Find the ratio of Expenses to Earnings

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5. If the monthly salary of a person is Rs A. His monthly expenses is Rs B. Find the ratio of Expenses to Earnings

▶ **Watch Video Solution**

6. If the monthly salary of a person is Rs A. His monthly expenses is Rs B. Find the ratio of Expenses to Earnings

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7. Draw a line segment B of length 10 cm and divide it into 10 equal part. Find the ratio of (AF - DG) : (FI - JK).

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8. Express the following statement as ratios

One year to the months having 31 days

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9. Express the following statement as ratios

length of rectangle is 3 times its breadth

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10. Express the following statement as ratios

Dozen to a Score.

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11. Arrange the ratios $2:3, 5:6, 4:3$ in ascending order.

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12. 12 bags of rice each weighing 10 kg costs Rs 8400. Find the cost of 20 bags of rice each weighing 12 kg.

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13. Divide Rs 520 among Ritika Vishu and Parth in the ratio $\dfrac{1}{3} : \dfrac{1}{4} : \dfrac{1}{2}$.

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