

INTERNATIONAL INDIAN SCHOOL. RIYADH

AC. YEAR - 2015-2016
Ln-9 Rational Numbers

CLASS : VII

SUBJECT : MATHEMATICS

1. Represent the following on the number line:

a) $\frac{3}{4}$ b) $\frac{-3}{4}$ c) $\frac{5}{8}$ d) $\frac{-5}{8}$ e) $\frac{7}{10}$

f) $\frac{7}{3}$ g) $\frac{-7}{2}$ h) $\frac{5}{3}$ i) $\frac{-12}{5}$ j) $\frac{2}{7}$

2. Arrange in ascending order:

a) $\frac{4}{5}$, $\frac{-2}{3}$, $\frac{-1}{2}$, $\frac{-4}{7}$ b) $\frac{2}{9}$, $\frac{-2}{9}$, $\frac{4}{-7}$, $\frac{5}{63}$

c) $\frac{15}{25}$, $\frac{-65}{-100}$, $\frac{12}{75}$, $\frac{55}{125}$ d) $\frac{-3}{4}$, $\frac{5}{-12}$, $\frac{-9}{16}$, $\frac{7}{-24}$

3. Add:

a) $\frac{-2}{7}$ and $\frac{5}{7}$ b) $\frac{-16}{3}$ and $\frac{7}{3}$ c) $\frac{2}{11}$ and $\frac{7}{-11}$

d) $\frac{-6}{15}$ and $\frac{5}{-2}$ e) $\frac{-2}{3}$ and $\frac{3}{7}$ f) $\frac{-14}{5}$ and $\frac{7}{3}$

g) $\frac{3}{11}$ and $\frac{7}{-15}$ h) $\frac{-6}{15}$ and $\frac{5}{-2}$ i) $\frac{-9}{24}$ and $\frac{-5}{18}$

j) $\frac{29}{-4}$ and $\frac{-15}{8}$ k) -4 and $\frac{1}{3}$ l) $\frac{-5}{27}$ and $\frac{7}{18}$

4. Add:

a) $-2 + \frac{3}{8} + \frac{-1}{5}$

b) $\frac{2}{3} + \frac{-7}{11} + \frac{-1}{4}$

c) $\frac{-9}{7} + \frac{3}{7} + \frac{-6}{7}$

e) $\frac{-9}{7} + \frac{1}{3} + \frac{-3}{4}$

f) $3 + \frac{-1}{2} + \frac{-3}{4}$

g) $\frac{-3}{10} + \frac{13}{30} + \frac{7}{-15}$

5. Subtract

a) $\frac{5}{7} - \frac{3}{7}$

b) $\frac{3}{8} - \frac{7}{8}$

c) $\frac{-5}{9} - \frac{7}{9}$

d) $\frac{-3}{11} - \frac{-5}{11}$

e) $\frac{1}{3} - \frac{-5}{6}$

f) $0 - \frac{-9}{13}$

g) $\frac{-3}{8} - (-5)$

h) $1 - \left(\frac{-11}{13}\right)$

6. Subtract

a) $\frac{-7}{9}$ from $\frac{-2}{5}$

b) $\frac{-7}{9}$ from -1

c) $\frac{-6}{17}$ from 0

d) $\frac{11}{15}$ from $\frac{-7}{20}$

7. The sum of two rational numbers is $\frac{-5}{8}$. If one of the numbers is $\frac{-6}{11}$, find the other number.

8. Simplify

(i) $\frac{3}{25} \times \frac{5}{9}$

(ii) $\frac{5}{27} \times \frac{-3}{20}$

(iii) $\frac{-7}{9} \times \frac{-15}{20}$

(iv) $\frac{-12}{7} \times (-1)$

(v) $\frac{-3}{8} \times \frac{8}{3}$

(vi) $-25 \times \frac{-9}{5}$

9. Simplify.

(i) $\frac{2}{5} \div \left(\frac{-3}{7}\right)$

(ii) $3 \div \frac{-1}{3}$

(iii) $-5 \div -15$

(iv) $\frac{-3}{8} \div 8$

(v) $\frac{-3}{8} \div \frac{1}{8}$

(vi) $\frac{-3}{13} \div \frac{-5}{39}$

(vii) $\frac{49}{9} \div \frac{-7}{9}$

(viii) $\frac{-105}{11} \div \frac{-15}{121}$

(ix) $\frac{-7}{39} \div 26$

(x) $\frac{-3}{5} \div (-9)$

(xi) $18 \div \left(\frac{-2}{3}\right)$

(xii) $\frac{-7}{9} \div \frac{-21}{-26}$

Ln-4 Simple Equations

10. Solve the following equations:

a) $x + 7 = 49$

b) $7x = 49$

c) $x - \frac{3}{2} = \frac{7}{2}$

d) $9z - 16 = 20$

e) $\frac{9}{z} + 3 = 6$

f) $y + \frac{3}{2} = 5$

g) $3(x + 2) = 15$

h) $5(x + 4) = 25$

i) $\frac{5m}{3} + 7 = \frac{m}{4} - 1$

j) $9(1 - x) + 5 = 7(5 + x)$

11. Write down the solutions of the following equations:

a) $3y = 15 - 2y$

b) $5(x - 3) = 4(x - 2)$

c) $\frac{x}{4} = 3 + \frac{x}{5}$

d) $3 + \frac{x}{3} = \frac{x}{2}$

e) $\frac{x}{5} + 1 = x - 3$

f) $\frac{3x}{2} + 1 = \frac{11}{2}$

12. Answer the following:

1. Write R.H.S. and L.H.S. of the equation $10 = 3x - 5$.

2. Five times a number equals 25. Write this statement as an equation.

3. Write a statement for $4x + 3 = 18$.

4. Solve $3y + 5 = 11$ by ~~transposing~~.

5. For what value of x will the equation $7x - 3 = 4$ be true?

6. For what value of x will the statement $\frac{x}{10} = \frac{1}{2}$ be true?

7. Sum of two consecutive integers is 13. Find the integers.

8. What number plus 7 is equal to 14?

9. What number multiplied by 4 is equal to 20?

10. 12 divided by what number is equal to 3?

Ln-8-Comparing Quantities

13. Find the ratio of the following:
- a) 15 minutes to an hour. b) $2\frac{1}{2}$ cm to a metre
c) 250 gm to a kilogram d) 15 paise to a rupee
e) 15 paise to five rupees f) 50 gm to 1.5 kg.
14. Find the ratio of:
- a) 3.5 metres to 15 metres b) 10 metres to 25 cm
c) 25 paise to Rs. 75 d) 40 cm to 2.5 m
e) 45 seconds to 2 minutes f) 75 paise to Rs. 10
15. Compare the following ratios:
- a) 1 : 7 and 5 : 22 b) 11 : 14 and 2 : 5
c) 3 : 11 and 2 : 15 d) 10 : 5 and 14 : 9
16. Your school sent up 96 students for the Board examination. Out of these, 80 got first division, 12 got second and the rest failed. Find the ratio of:
- i) the students getting first division to the total number of student sent.
ii) the students getting second division to the total number of students sent.
iii) the students getting first division to those getting second, and
iv) the number of students failed to the total number of student sent up.

17. The price of bread increased from Rs 12 to Rs 13. Find the ratio of the increase in price to the original price.
18. The membership fee of a club is increased from Rs 980 to Rs 1000 per month. Find the ratio of the increased fees to the original fees.
19. Sunita gets pocket money of Rs 500 per month out of which she saves Rs 40 per month. Find the ratio of her savings to the amount she gets.
20. There are 28 boys and 36 girls in a party. Find the ratio of:
- boys to girls
 - boys to total number of heads
 - girls to total number of heads
21. Sumit buys pencils at the rate of Rs 6 per dozen and sells them at the rate of Rs 13 per dozen. What is the ratio of:
- cost price to selling price
 - profit to selling price
 - cost price to profit
 - selling price to cost price
23. Which of the following arrangements are in proportion?
- 5, 7, 25, 25
 - 9, 6, 15, 10
 - 15, 20, 21, 12
 - 11, 7, 55, 35
24. Find x in the following proportions:
- $\frac{x}{3} = \frac{57}{19}$
 - $\frac{18}{x} = \frac{27}{3}$
 - $\frac{16}{18} = \frac{x}{96}$
 - $\frac{4}{x} = \frac{x}{16}$
 - $5 : 35 :: x : 14$
 - $10 : 15 :: 12 : x$

25. The ratio of the length and breadth of a football ground is 3: 2. Find the length if the breadth is 28 metres.
26. Income to expenditure ratio of a person is 8:7. His monthly income is Rs 8000. What is his saving per month? (Hint: First find the expenditure)
27. A bus travels 205 km on 20 litres of petrol. How much petrol will be needed to cover journey of 369 km?
28. At a wedding reception for 240 people, it was estimated that one bottle of cold drink would be sufficient for 4 people. How many bottles would be sufficient for 240 people?
29. The cost of 6 exercise books is Rs 90. What is the cost of 25 such books?
30. A boat covers a distance of 15 km in 6 hours. What distance will it cover in 24 hours?
31. 15 boys can type 270 pages a day. How many pages a day can 36 boys type?
32. A worker is paid Rs 744 for 12 days. How much should he be paid for 31 days?
33. Express the following percentages as ratio, fraction in the simplest form, and decimal:
2%, $6\frac{1}{4}\%$, $12\frac{1}{2}\%$, 15%, 18%, 115%
34. Express the following as per cent:
3 : 4, $\frac{4}{7}$, 0.375, $1\frac{7}{8}$, 2.45, $5\frac{1}{4}$