Important Questions for Class 7 Maths Chapter 8: Chapter 8 of Class 7 Maths, Rational Numbers, introduces the concept of numbers expressed in p/q, where p and q are integers. Important topics include identifying and comparing rational numbers, representation on the number line, standard form conversion, and operations like addition, subtraction, multiplication, and division of rational numbers.

Emphasis is placed on simplifying expressions and solving word problems involving rational numbers. Practice questions typically focus on finding equivalent rational numbers, comparing their size, solving equations, and applying operations to real-life scenarios to strengthen conceptual understanding.

Important Questions for Class 7 Maths Chapter 8 Overview

Chapter 8 of Class 7 Maths, Rational Numbers, is crucial as it lays the foundation for advanced mathematical concepts. This chapter explores numbers in the form p/q, where p and q are integers, highlighting their significance in real-life scenarios and higher studies.

Important questions include comparing and representing rational numbers on the number line, converting to standard form, and performing operations like addition, subtraction, multiplication, and division. These problems strengthen analytical skills, enhance problem-solving abilities, and build a strong base for algebra and geometry, making this chapter a key component of the curriculum.

Important Questions for Class 7 Maths Chapter 8 Rational Numbers

Below is the Important Questions for Class 7 Maths Chapter 8 Rational Numbers -

Question 1. List any five rational numbers between:

(a) -1 and 0

Answer:-

The five rational numbers present between the numbers -1 and 0 are as follows,

$-1 < (-2/3) < (-3/4) < (-4/5) < (-5/6) < (-6/7) < 0$

(b) -2 and -1

Answer:-

The five rational numbers present between the numbers -2 and -1 are,

-2 < (-8/7) < (less than) (-9/8) < (-10/9) < (-11/10) < (-12/11) < -1

(c) -4/5 and -2/3

Answer:-

The five rational numbers present between the numbers -4/5 and -2/3 are,

-4/5 < (less than) (-13/12) < (-14/13) < (-15/14) < (-16/15) < (-17/16) < -2/3

(d) -1/2 and 2/3

Answer:-

The five rational numbers present between -1/2 and 2/3 are,

-1/2 < (less than) (-1/6) < (0) < (1/3) < (1/2) < (20/36) < 2/3

Question 2. Write any four more rational numbers in each of these following patterns:

(a) -3/5, -6/10, -9/15, -12/20, …..

Answer:-

In the above given question, we can easily observe that the numerator and the denominator are the multiples of numbers three and five.

= (-3 × 1)/ (5 × 1) and (-3 × 2)/ (5 × 2), (-3 × 3)/ (5 × 3), (-3 × 4)/ (5 × 4)

Thus, the next four rational numbers present in this same pattern are as follows,

= (-3 × 5)/ (5 × 5) and (-3 × 6)/ (5 × 6), (-3 × 7)/ (5 × 7), (-3 × 8)/ (5 × 8)

= -15/25, -18/30, -21/35, -24/40 ….

(b) -1/4, -2/8, -3/12, …..

Answer:-

In the above given question, we can easily observe that the numerator and the denominator are the multiples of the numbers one and four.

= (-1 × 1)/ (4 × 1) and (-1 × 2)/ (4 × 2), (-1 × 3)/ (1 × 3)

Then we get, the next four rational numbers present in this pattern will be,

= (-1 × 4)/ (4 × 4) and (-1 × 5)/ (4 × 5), (-1 × 6)/ (4 × 6), (-1 × 7)/ (4 × 7)

= -4/16, -5/20, -6/24, -7/28 and so on.

(c) -1/6, 2/-12, 3/-18, 4/-24 and so on.

Answer:-

In the above given question, we can easily observe that the numerator and the denominator are the multiples of numbers one and six.

= (-1 × 1)/ (6 × 1) and (1 × 2)/ (-6 × 2), (1 × 3)/ (-6 × 3) and (1 × 4)/ (-6 × 4)

Then, the next four rational numbers present in this pattern are as follows,

= (1 × 5)/ (-6 × 5) and (1 × 6)/ (-6 × 6), (1 × 7)/ (-6 × 7) and (1 × 8)/ (-6 × 8)

= 5/-30, 6/-36, 7/-42, 8/-48 ….

(d) -2/3, 2/-3, 4/-6, 6/-9 …..

Answer:-

In the above given question, we can easily observe that the numerator and the denominator are the multiples of numbers two and three.

= (-2 × 1)/ (3 × 1) and (2 × 1)/ (-3 × 1), (2 × 2)/ (-3 × 2) and (2 × 3)/ (-3 × 3)

Then, the next four rational numbers present in this pattern are as follows,

= (2 × 4)/ (-3 × 4) and (2 × 5)/ (-3 × 5), (2 × 6)/ (-3 × 6) and (2 × 7)/ (-3 × 7)

= 8/-12, 10/-15, 12/-18 and 14/-21 ….

Question 3. Give any four rational numbers equivalent to:

(a) -2/7

Answer:-

The four rational numbers present whic are equivalent to the fraction -2/7 are,

= (-2 × 2)/ (7 × 2) and (-2 × 3)/ (7 × 3), (-2 × 4)/ (7 × 4) and (-2 × 5)/ (7× 5)

= -4/14, -6/21, -8/28 and -10/35

(b) 5/-3

Answer:-

The four rational numbers present which are equivalent to the fraction 5/-3 are,

= (5 × 2)/ (-3 × 2), (5 × 3)/ (-3 × 3), (5 × 4)/ (-3 × 4) and (5 × 5)/ (-3× 5)

= 10/-6, 15/-9, 20/-12 and 25/-15

(c) 4/9

Answer:-

The four rational numbers present which are equivalent to the fraction 5/-3 are,

= (4 × 2)/ (9 × 2), (4 × 3)/ (9 × 3), (4 × 4)/ (9 × 4) and (4 × 5)/ (9× 5)

= 8/18, 12/27, 16/36 and 20/45

Question 4. Which of these following pairs represents the same rational number?

(i) (-7/21) and (3/9)

Answer:-

We have to check whether the given pair represents the same rational number.

Then,

-7/21 = 3/9

-1/3 = 1/3

∵ -1/3 ≠ 1/3

Hence -7/21 ≠ 3/9

So, the given pair do not represent the same rational number.

(ii) (-16/20) and (20/-25)

Answer:-

We have to check whether the given pair represents the same rational number.

Then,

-16/20 = 20/-25

-4/5 = 4/-5

∵ -4/5 = -4/5

Hence -16/20 = 20/-25

So, the given pair represents same rational number.

(iii) (-2/-3) and (2/3)

Answer:-

We have to check whether the given pair represents the same rational number.

Then,

-2/-3 = 2/3

2/3= 2/3

∵ 2/3 = 2/3

Hence, -2/-3 = 2/3

So, the given pair represents same rational number.

(iv) (-3/5) and (-12/20)

Answer:-

We have to check whether the given pair represents the same rational number.

Then,

-3/5 = – 12/20

-3/5 = -3/5

∵ -3/5 = -3/5

Hence -3/5= -12/20

So, the given pair represents same rational number.

(v) (8/-5) and (-24/15)

Answer:-

We have to check whether the given pair represents the same rational number.

Then,

8/-5 = -24/15

8/-5 = -8/5

∵ -8/5 = -8/5

Hence 8/-5 = -24/15

So, the given pair represents same rational number.

(vi) (1/3) and (-1/9)

Answer:-

We have to check whether the given pair represents the same rational number.

Then,

1/3 = -1/9

∵ 1/3 ≠ -1/9

Hence, 1/3 ≠ -1/9

So, the given pair does not represent same rational number.

(vii) (-5/-9) and (5/-9)

Answer:-

We have to check if these given pairs represent the same rational number.

Then,

-5/-9 equals to 5/-9

Therefore, 5/9 ≠ -5/9

Hence -5/-9 ≠ 5/-9

So, these given pairs do not represent the same rational number.

Question 5. Rewrite the following rational numbers given below in the simplest form:

(i) -8/6

Solution:-

The given above rational numbers can be simplified further,

Then,

= -4/3 … [∵ Divide both the numerator and denominator by 2]

(ii) 25/45

Solution:-

The given above rational numbers can be simplified further,

Then,

= 5/9 … [∵ Divide both the numerator and denominator by 5]

(iii) -44/72

Solution:-

The given above rational numbers can be simplified further,

Then,

= -11/18 … [∵ Divide both the numerator and denominator by 4]

(iv) -8/10

Solution:-

The given above rational numbers can be simplified further,

Then,

= -4/5 … [∵ Divide both the numerator and denominator by 2]

Question 6. Fill in the below boxes with the correct symbol of >, <, and =.

(a) -5/7 [ ] 2/3

Answer:-

The LCM of the denominators of numbers 7 and 3 is the number 21

Therefore, (-5/7) = [(-5 × 3)/ (7 × 3)] is = (-15/21)

And (2/3) = [(2 × 7)/ (3 × 7)] equals to (14/21)

Now,

-15 < 14

So, (-15/21) < (14/21)

-5/7 [<] 2/3

(b) -4/5 [ ] -5/7

Answer:-

The LCM of the denominators of 5 and 7 is the number 35

Therefore (-4/5) = [(-4 × 7)/ (5 × 7)] is = (-28/35)

And (-5/7) = [(-5 × 5)/ (7 × 5)] equals to (-25/35)

Now,

-28 < -25

So, (-28/35) < (- 25/35)

-4/5 [<] -5/7

(c) -7/8 [ ] 14/-16

Answer:-

14/-16 can simplified further,

Then,

7/-8 … [∵ Divide both the numerator and denominator by 2]

So, (-7/8) = (-7/8)

Hence, -7/8 [=] 14/-16

(d) -8/5 [ ] -7/4

Answer:-

The LCM of the denominators of 5 and 4 is the no 20

Therefore (-8/5) = [(-8 × 4)/ (5 × 4)] = (-32/20)

And (-7/4) = [(-7 × 5)/ (4 × 5)] is equal to (-35/20)

Now,

-32 > – 35

So, (-32/20) > (- 35/20)

-8/5 [>] -7/4

(e) 1/-3 [ ] -1/4

Answer:-

The LCM of the denominators of 3 and 4 is the no 12

Hence, (-1/3) = [(-1 × 4)/ (3 × 4)] is = (-4/12)

And (-1/4) = [(-1 × 3)/ (4 × 3)] is equal to (-3/12)

Now,

-4 < – 3

So, (-4/12) is less than (- 3/12)

Hence, 1/-3 [<] -1/4

(f) 5/-11 [ ] -5/11

Answer:-

Since, (-5/11) = (-5/11)

Hence, 5/-11 [=] -5/11

(g) 0 [ ] -7/6

Answer:-

Since every negative rational number is said to be less than zero.

We have:

= 0 [>] -7/6

Question 7. Which is greater in each of these following:

(a) 2/3, 5/2

Answer:-

The LCM of the denominators of 3 and 2 is 6

(2/3) = [(2 × 2)/ (3 × 2)] equals to (4/6)

And (5/2) equals to [(5 × 3)/ (2 × 3)] = (15/6)

Now,

4 < 15

So, (4/6) < (15/6)

∴ 2/3 < 5/2

Hence, 5/2 is greater.

(b) -5/6, -4/3

Answer:-

The LCM of the denominators of 6 and 3 is 6

∴ (-5/6) = [(-5 × 1)/ (6 × 1)] is = (-5/6)

And (-4/3) = [(-4 × 2)/ (3 × 2)] equals to (-12/6)

Now,

-5 > -12

So, (-5/6) > (- 12/6)

∴ -5/6 > -12/6

Hence, – 5/6 is greater.

(c) -3/4, 2/-3

Answer:-

The LCM of the denominators of 4 and 3 is the number 12

∴ (-3/4) = [(-3 × 3) divided by (4 × 3)] is = (-9/12)

And (-2/3) = [(-2 × 4)/ (3 × 4)] equals to (-8/12)

Now,

-9 < -8

So, (-9/12) is less than (- 8/12)

Therefore -3/4 < 2/-3

Hence, 2/-3 is greater.

(d) -¼, ¼

Answer:-

The given fraction is like friction,

So, -¼ < ¼

Hence ¼ is greater,

Question 8. Write the following rational numbers in an ascending order:

(i) -3/5, -2/5, -1/5

Answer:-

The above given rational numbers are in the form of like fraction,

Hence,

(-3/5)< (-2/5) < (-1/5)

(ii) -1/3, -2/9, -4/3

Answer:-

To convert the above given rational numbers into the like fraction we have to first find LCM,

LCM of the numbers 3, 9, and 3 is 9

Now,

(-1/3)is equal to [(-1 × 3)/ (3 × 9)] = (-3/9)

(-2/9) is equal to [(-2 × 1)/ (9 × 1)] = (-2/9)

(-4/3) is equal to [(-4 × 3)/ (3 × 3)] = (-12/9)

Clearly,

(-12/9) < (-3/9) < (-2/9)

So,

(-4/3) < (-1/3) < (-2/9)

(iii) -3/7, -3/2, -3/4

Answer:-

To convert the given rational numbers into the like fraction we have to first find LCM,

LCM of 7, 2, and 4 is the number 28

Now,

(-3/7)= [(-3 × 4)/ (7 × 4)] is equal to (-12/28)

(-3/2)= [(-3 × 14)/ (2 × 14)] is equal to (-42/28)

(-3/4)= [(-3 × 7)/ (4 × 7)] is equal to (-21/28)

Clearly,

(-42/28) < (-21/28) < (-12/28)

Hence,

(-3/2) < (-3/4) < (-3/7)

Benefits of Using Important Questions for Class 7 Maths Chapter 8

Using important questions for Class 7 Maths Chapter 8, **Rational Numbers**, offers several benefits:

Focused Practice: Helps in mastering key concepts like operations, comparisons, and standard forms of rational numbers.

Improved Problem-Solving: Enhances analytical thinking and boosts confidence in solving complex problems.

Exam Preparation: Familiarizes students with frequently asked and application-based questions, improving performance in exams.

Concept Clarity: Reinforces understanding of operations and their application in real-life scenarios.

Time Management: Builds speed and accuracy by practicing targeted problems.