

Problem solving based on the above concept (Division of Rational numbers)

**SUBJECT : MATHEMATICS**  
**CHAPTER NUMBER: 02**  
**CHAPTER NAME : RATIONAL NUMBERS**

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**CHANGING YOUR TOMORROW**

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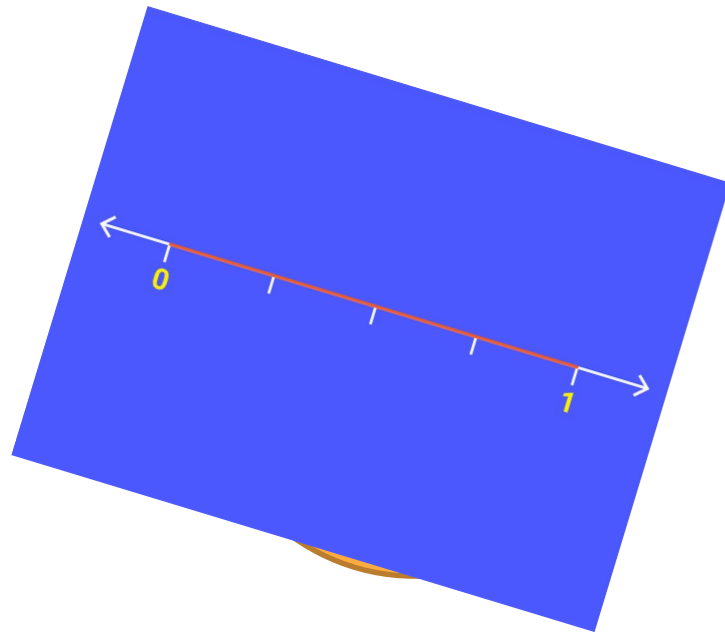
## Learning outcomes

Students will be able to divide rational numbers



## Video on

<https://www.youtube.com/watch?v=VMp7bm9khis> (6:46 minutes )



$$(iii) (3 \frac{5}{12} + 1 \frac{2}{3}) \div (3 \frac{5}{12} - 1 \frac{2}{3})$$

It can be written as

$$= [(12 \times 3 + 5)/12 + (3 \times 1 + 2)/3] \div [(12 \times 3 + 5)/12 - (3 \times 1 + 2)/3]$$

$$= (41/12 + 5/3) \div (41/12 - 5/3)$$

LCM of 12 and 3 is 12

$$= (41 + 20)/12 \div (41 - 20)/12$$

By further calculation

$$= 61/12 \div 21/12$$

We can write it as

$$= 61/12 \times 12/21$$

$$= 61/21$$

$$= 2 \frac{19}{21}$$

**8. The product of two numbers is 14. If one of the numbers is  $-8/7$ , find the other.**

**Solution:**

It is given that

Product of two numbers = 14

One of the number =  $-8/7$

Other number =  $14 \div -8/7$

We can write it as

$$= 14 \times -7/8$$

$$= -98/8$$

$$= -49/4$$

**11. By what number should  $-3/8$  be multiplied so that the product is  $-9/16$ ?**

**Solution:**

$$\text{Number} = -3/8 \div (-9/16)$$

We can write it as

$$= -3/8 \times 16/-9$$

By further calculation

$$= 2/3$$

$$= 1 \frac{1}{2}$$

**12. By what number should  $-5/7$  be divided so that the result is  $-15/28$ ?**

**Solution:**

Consider the number as  $x$

$$-5/7 \div x = -15/28$$

It can be written as

$$-5/7 \times 1/x = -15/28$$

By further calculation

$$-5/7x = -15/28$$

So we get

$$x = 5/7 \times 28/15 = 4/3$$

$$x = 1 \frac{1}{3}$$

**13. Evaluate:  $(32/15 + 8/5) \div (32/15 - 8/5)$ .**

**Solution:**

It is given that

$$(32/15 + 8/5) \div (32/15 - 8/5)$$

LCM of 15 and 5 is 15

$$= [(32 \times 1)/(15 \times 1) + (8 \times 3)/(5 \times 3)] \div [(32 \times 1)/(15 \times 1) - (8 \times 1)/(5 \times 1)]$$

By further calculation

$$= (32 + 24)/15 \div (32 - 24)/15$$

So we get

$$= 56/15 \div 8/15$$

$$= 56/15 \times 15/8$$

$$= 7$$

**14. Seven equal pieces are made out of a rope of  $21 \frac{5}{7}$  m. Find the length of each piece.**

**Solution:**

It is given that

Length of 7 pieces of rope =  $21 \frac{5}{7}$  m

It can be written as

$$= (21 \times 7 + 5) / 7$$

$$= 152/7$$

So the length of each piece =  $152/7 \div 7$

We can write it as

$$= 152/7 \times 1/7$$

So we get

$$= 152/49$$

$$= 3 \frac{5}{49} \text{ m}$$

H.W.  
Exercise 2 E Q.No.7



**THANKING YOU**  
**ODM EDUCATIONAL GROUP**