

Let us do 1.1

B1) Which of the following rational numbers are on the left of 0 and which are on right of 0?

(i) $\frac{6}{-5} \rightarrow$ left

(ii) $\frac{3}{2} \rightarrow$ right

(iii) $\frac{-7}{-5} \rightarrow$ right

(iv) $\frac{-5}{4} \rightarrow$ left

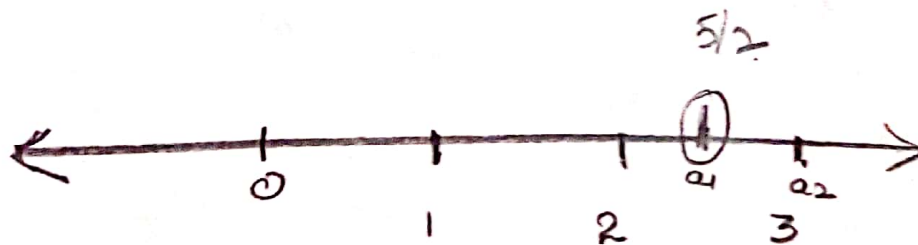
Q.No $\frac{2}{2}$ Represent $\frac{7}{4}$ on the number line

$$\frac{7}{4} = 1\frac{3}{4}$$



3) Represent $\frac{5}{2}$ on the number line

$$\frac{5}{2} = 2\frac{1}{2}$$



6) Write the absolute value of:

(i) $-\frac{5}{8}$

(ii) -2

(iii) $\frac{6}{13}$

(iv) $\frac{7}{11}$

Sol $\left|-\frac{5}{8}\right| = \frac{5}{8}$

(ii) $|-2| = 2$

(iii) $\left|\frac{6}{13}\right| = \frac{6}{13}$

(iv) $\left|\frac{7}{11}\right| = \frac{7}{11}$

Q What is absolute value of zero rational number?

Ans 0

Q Simplify

(i) $|\frac{1}{3} - \frac{5}{12}|$

Sol $|\frac{4-5}{12}| = |-\frac{1}{12}| = \frac{1}{12}$

iii $|\frac{1}{2} \times -\frac{3}{6}|$

Sol $|\frac{-3}{12}| = |-\frac{1}{4}| = \frac{1}{4}$

ii $|\frac{3}{10} - \frac{1}{5}|$

Sol $|\frac{3-2}{10}| = |\frac{1}{10}| = \frac{1}{10}$

iv $|-2 \div \frac{1}{6}|$

Sol $|-2 \times \frac{6}{1}| = |-12| = 12$

Q Verify the following:

(i) $|\frac{5}{4} + (-\frac{3}{4})| < |\frac{5}{4}| + |-\frac{3}{4}|$

Sol L.H.S $|\frac{5}{4} + (-\frac{3}{4})|$
 $= |\frac{5+(-3)}{4}| = |\frac{2}{4}| = |\frac{1}{2}| = \frac{1}{2}$

R.H.S $|\frac{5}{4}| + |-\frac{3}{4}|$
 $= \frac{5}{4} + \frac{3}{4}$
 $= \frac{5+3}{4} = \frac{8}{4} = 2$

$\therefore \frac{1}{2} < 2$

LHS < RHS
Hence Proved

iv $|\frac{-5}{6} \times \frac{16}{9}| = |-\frac{5}{6}| \times |\frac{16}{9}|$

L.H.S $|\frac{-5}{6} \times \frac{16}{9}| = |\frac{-40}{27}| = \frac{40}{27}$

R.H.S $|-\frac{5}{6}| \times |\frac{16}{9}|$

$\frac{5}{6} \times \frac{16}{9} = \frac{40}{27}$

$\frac{40}{27} = \frac{40}{27}$

L.H.S = R.H.S

Hence proved.

10 Find the rational numbers whose absolute value is :-

- (i) $\frac{7}{11}$ (ii) 2 (iii) $\frac{5}{13}$ (iv) $\frac{1}{8}$

Sol (i) $\pm \frac{7}{11}$ (ii) ± 2 (iii) $\pm \frac{5}{13}$ (iv) $\pm \frac{1}{8}$

H.W Q No-4, 5, and parts of 9

Let us do 1.2

B1 Add the following rational numbers :-

- (i) $\frac{3}{2}$ and $-\frac{23}{2}$ (iv) $-\frac{11}{5} + \frac{-17}{-15}$

Sol $= \frac{3}{2} + (-\frac{23}{2})$

Sol $-\frac{11}{5} + \frac{17}{15} = \frac{-33+17}{15} = \frac{-16}{15}$

$\frac{3 + (-23)}{2} = \frac{-20}{2}$

Ans- $-\frac{16}{15}$

- v $-\frac{13}{8}$ and $\frac{12}{-5}$

$-\frac{13}{8} + (-\frac{12}{5}) = \frac{-65 + (-96)}{40} = -\frac{161}{40}$

- vi $-\frac{8}{19}$ and $-\frac{2}{57}$

$-\frac{8}{19} + (-\frac{2}{57}) = \frac{-24 + (-2)}{57} = -\frac{26}{57}$

2 Simplify

- (i) $-\frac{59}{5} + \frac{19}{5}$

Sol $-\frac{59}{5} + \frac{19}{5} = \frac{-59+19}{5} = \frac{-40}{5} = -8$

- ii $\frac{3}{4} + -\frac{2}{3}$

Sol $\frac{3}{4} + -\frac{2}{3} = \frac{9 + (-8)}{12} = \frac{1}{12}$

III $-\frac{7}{11} + \frac{5}{9}$

Sol $-\frac{7}{11} + \frac{5}{9} = \frac{-63 + 55}{99} = -\frac{8}{99}$

IV $-\frac{2}{3} + \frac{5}{4}$

Sol $-\frac{2}{3} + \frac{5}{4} = \frac{-8 + 15}{12} = \frac{7}{12}$

V $-\frac{12}{5} + \frac{9}{25}$

Sol $-\frac{12}{5} + \frac{9}{25} = \frac{-60 + 9}{25} = -\frac{51}{25}$

3 Simplify

(i) $\frac{8}{63} + \frac{5}{21}$

Sol $\frac{8}{63} + \frac{5}{21} = \frac{8 + 15}{63} = \frac{23}{63}$

III $-\frac{2}{3} - \frac{5}{6}$

$-\frac{2}{3} - \frac{5}{6} = \frac{-4 - 5}{6} = -\frac{9}{6} = -\frac{3}{2}$

III $-\frac{17}{5} - \frac{9}{5}$

$-\frac{17}{5} - \frac{9}{5} = -\frac{17 + 9}{5} = -\frac{26}{5}$

IV $\frac{5}{8} - \frac{7}{12}$

$\frac{5}{8} - \frac{7}{12} = \frac{15 - 14}{24} = \frac{1}{24}$

4 Multiply

(i) $\frac{6}{7}$ by $-\frac{19}{18}$

Sol $\frac{6}{7} \times -\frac{19}{18} = -\frac{19}{21}$

III $-\frac{17}{3}$ by $-\frac{21}{85}$

$-\frac{17}{3} \times -\frac{21}{85} = \frac{7}{5}$

(ii) $\frac{4}{7}$ by $-\frac{2}{5}$

Sol $\frac{4}{7} \times -\frac{2}{5} = -\frac{8}{35}$

IV $-\frac{9}{25}$ by $-\frac{5}{18}$

Sol $-\frac{9}{25} \times -\frac{5}{18} = \frac{1}{10}$

5/ Simplify

(i) $(\frac{3}{2} \times -\frac{7}{4}) - (-\frac{5}{2} \times \frac{3}{4})$

Sol $(\frac{3}{2} \times -\frac{7}{4}) - (-\frac{5}{2} \times \frac{3}{4}) = \frac{-21}{8} - (-\frac{15}{8}) = -\frac{21}{8} + \frac{15}{8} = \frac{-21+15}{8} = \frac{-6}{8} = \frac{-3}{4}$

ii $(\frac{9}{2} \times \frac{8}{3}) + (\frac{4}{3} \times \frac{5}{14}) - (\frac{3}{5} \times -\frac{7}{6})$

Sol $(\frac{9^3}{2^1} \times \frac{8^4}{3^1}) + (\frac{4^1}{3^1} \times \frac{5}{6}) - (\frac{-3^1}{5} \times \frac{-7}{6})$
 $\frac{12}{1} + \frac{5}{18} - (\frac{7}{10})$

$\frac{1080 + 25 - 63}{90} = \frac{1105 - 63}{90} = \frac{1042}{90} = \frac{521}{45}$

6/ Divide

(i) $\frac{15}{7}$ by $-\frac{5}{7}$

Sol $\frac{15}{7} \div -\frac{5}{7} = \frac{15}{7} \times \frac{-7}{5} = -3$

ii $-\frac{1}{8}$ by $\frac{3}{4}$

$-\frac{1}{8} \div \frac{3}{4} = -\frac{1}{8} \times \frac{4}{3} = -\frac{1}{6}$

iii -4 by $-\frac{3}{5}$

$-4 \div -\frac{3}{5} = -4 \times \frac{5}{-3} = \frac{+20}{-3} = -\frac{20}{3}$

7 Simplify

(i) $\frac{-7}{12} \div \frac{21}{-3}$

Sol $\frac{-7}{12} \div \frac{21}{-3} = \frac{-7}{12} \times \frac{-3}{21} = \frac{1}{12}$

|| $6 \div \frac{3}{4}$

Sol $6 \div \frac{3}{4} = \frac{6 \times 4}{3} = \frac{24}{3} = 8$

||| $\frac{-1}{15} \div \frac{8}{3}$

$\frac{-1}{15} \times \frac{3}{8} = \frac{-1}{40}$

8 Find $(x+y) \div (x-y)$ if

(i) $x = \frac{2}{3}$ $y = \frac{3}{2}$

Sol $(x+y) \div (x-y)$

put $x = \frac{2}{3}$ and $y = \frac{3}{2}$

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

$= \left(\frac{4+9}{6}\right) \div \left(\frac{4-9}{6}\right)$

$= \frac{13}{6} \div \frac{-5}{6}$

$= \frac{13}{6} \times \frac{-6}{5} = \frac{-13}{5}$

|| $x = \frac{2}{5}$, $y = \frac{1}{2}$

Sol $(x+y) \div (x-y)$

put $x = \frac{2}{5}$ $y = \frac{1}{2}$

$\left(\frac{2}{5} + \frac{1}{2}\right) \div \left(\frac{2}{5} - \frac{1}{2}\right)$

$\left(\frac{4+5}{10}\right) \div \left(\frac{4-5}{10}\right)$

$\frac{9}{10} \div \frac{-1}{10}$

$\frac{9}{10} \times \frac{-10}{1} = -9$

9 There are 42 students in a class. $\frac{3}{4}$ of the boys and $\frac{2}{3}$ of the girls travel to school by bus. The total number of boys and girls who come to school by bus is 30. How many boys are there in class? How many girls come to school by bus?

sol Let no of boys = x
 " " " girls = 42 - x

No of student (boys) go by bus = $\frac{3}{4}$ of x = $\frac{3x}{4}$
 " " " girls " " = $\frac{2}{3}$ of (42 - x) = $\frac{2(42-x)}{3}$

Total $\frac{3x}{4} + \frac{2(42-x)}{3} = 30$

$\frac{9x + 8(42-x)}{12} = 30$

$9x + 336 - 8x = 30 \times 12$

$9x - 8x = 360 - 336$

$x = 24$

So No of boys = 24

" " girls = 42 - 24 = 18

No of girls come to school by bus = $\frac{2}{3}$ of 18
 $\frac{2}{3} \times 18 = 12$

10 $\frac{3}{8}$ of people at a restaurant are adults. If there are 90 more children than adults. How many children are there?

sol Let no of people = x

No of adults = $\frac{3}{8}$ of x = $\frac{3x}{8}$

adult = total - (adult + 90)

$$\frac{3x}{8} = x - \left(\frac{3x}{8} + 90\right)$$

$$\frac{2x}{8} = +90$$

$$\frac{3x}{8} = x - \frac{3x}{8} - 90$$

$$x = \frac{90 \times 8}{2} = 360$$

$$\frac{3x}{8} - x + \frac{3x}{8} = -90$$

total people = 360

$$\text{adult} = \frac{3}{8} \times 360 = 135$$

$$\frac{3x - 8x + 3x}{8} = -90$$

$$\text{No of children} = 135 + 90 = 225$$

How parts of QNo 1, 2, 3, 4, 5, 6, 7 and QNo-10

Let us do 1-3

QNo-1 B-1, 2 and 4 are fillups so need not to do in copy.

QNo-3 State the property used in each of the following:-
Ans

i) $-\frac{4}{7} + \frac{5}{21} = \frac{5}{21} + -\frac{4}{7}$ commutative

ii) $-\frac{1}{2} + \frac{-5}{21} = \frac{-5}{21} + -\frac{1}{2}$ commutative

iii) $\frac{3}{2} + \left(\frac{7}{2} + \frac{-3}{8}\right) = \left(\frac{3}{2} + \frac{7}{2}\right) + \left(\frac{-3}{8}\right)$ associative

iv) $\left(\frac{-11}{12} + \frac{-5}{6}\right) + 4 = \frac{-11}{12} + \left(\frac{-5}{6} + 4\right)$ associative

v) $\frac{3}{10} + \left(\frac{-11}{15} + \frac{10}{9}\right) = \left(\frac{3}{10} + \frac{-11}{15}\right) + \frac{10}{9}$ associative

vi) $\frac{3}{7} + \left(\frac{-5}{8} + \frac{9}{4}\right) = \left(\frac{3}{7} + \frac{-5}{8}\right) + \frac{9}{4}$ associative

Q9

Q905 If $a = \frac{7}{8}$ and $b = \frac{-1}{7}$ then verify $a+b = b+a$

Sol L.H.S $a+b$
 put $a = \frac{7}{8}$ and $b = \frac{-1}{7}$
 $\frac{7}{8} + \frac{-1}{7} = \frac{49 + (-8)}{56} = \frac{41}{56}$

R.H.S $b+a$
 put $a = \frac{7}{8}$ $b = \frac{-1}{7}$
 $\frac{-1}{7} + \left(\frac{7}{8}\right) = \frac{-8 + 49}{56} = \frac{41}{56}$

L.H.S = R.H.S
 Hence verified

Q6 $x = \frac{2}{5}$, $y = \frac{-4}{3}$, $z = \frac{8}{9}$ then verify that $x + (y+z) = (x+y) + z$

Sol L.H.S
 $x + (y+z)$
 put value of $x, y, \& z$
 $\frac{2}{5} + \left(\frac{-4}{3} + \frac{8}{9}\right)$
 $\frac{2}{5} + \left(\frac{-12 + 8}{9}\right)$
 $\frac{2}{5} + \frac{-4}{9} = \frac{18 + (-20)}{45} = \frac{-2}{45}$

R.H.S

$(x+y) + z$
put values

$$\left[\frac{2}{5} + \left(-\frac{4}{3} \right) \right] + \frac{8}{9}$$

$$\left(\frac{6 + (-20)}{15} \right) + \frac{8}{9}$$

$$\frac{-14}{15} + \frac{8}{9} = \frac{-42 + 40}{45} = \frac{-2}{45}$$

L.H.S = R.H.S

Hence proved

H.W → Do practice of Assignment work

Let us do Ex 1.4

Q1 Find the product and verify the commutative property for multiplication of rational numbers:-

(1) $\frac{1}{9} \times \frac{5}{11}$

Commutative property = $a \times b = b \times a$

∴ we have to verify $\frac{1}{9} \times \frac{5}{11} = \frac{5}{11} \times \frac{1}{9}$

L.H.S $\frac{1}{9} \times \frac{5}{11} = \frac{5}{99}$

R.H.S $\frac{5}{11} \times \frac{1}{9} = \frac{5}{99}$

Hence verified.

II $\frac{3}{5} \times \frac{-7}{8}$

We have to verify $\frac{3}{5} \times \frac{-7}{8} = \frac{-7}{8} \times \frac{3}{5}$

L.H.S $\frac{3}{5} \times \frac{-7}{8} = \frac{-21}{40}$

R.H.S $\frac{-7}{8} \times \frac{3}{5} = \frac{-21}{40}$

L.H.S = R.H.S

III $\left(\frac{-11}{19}\right) \times \frac{5}{7}$

We have to verify $\left(\frac{-11}{19} \times \frac{5}{7}\right) = \frac{5}{7} \times \left(\frac{-11}{19}\right)$

L.H.S $\left(\frac{-11}{19}\right) \times \frac{5}{7} = \frac{-55}{133}$

R.H.S $\frac{5}{7} \times \frac{-11}{19} = \frac{-55}{133}$

L.H.S = R.H.S

Hence verified

⑨ Find the product and verify the associative property for multiplication of rational numbers.

(i) $\left(\frac{7}{23} \times \frac{5}{19}\right) \times \frac{1}{12}$

Associative property is $(a \times b) \times c = a \times (b \times c)$

So we have to prove

$$\left(\frac{7}{23} \times \frac{5}{19}\right) \times \frac{1}{2} = \frac{7}{23} \times \left(\frac{5}{19} \times \frac{1}{2}\right)$$

LHS $\left(\frac{7}{23} \times \frac{5}{19}\right) \times \frac{1}{2}$

$$\frac{35}{437} \times \frac{1}{2} = \frac{35}{874}$$

RHS $\frac{7}{23} \times \left(\frac{5}{19} \times \frac{1}{2}\right)$

$$\frac{7}{23} \times \frac{5}{38} = \frac{35}{874}$$

$$\text{LHS} = \text{RHS}$$

Hence verified

$$\text{Product} = \frac{35}{874}$$

II $\frac{1}{5} \times \left(\frac{-7}{1} \times \frac{6}{11}\right)$

we have to verify $\frac{1}{5} \times \left(\frac{-7}{1} \times \frac{6}{11}\right) =$

$$\left(\frac{1}{5} \times \frac{-7}{1}\right) \times \frac{6}{11}$$

$$\text{LHS} = \frac{1}{5} \times \left(\frac{-7}{1} \times \frac{6}{11}\right) = \frac{1}{5} \times \frac{-42}{11} = \frac{-42}{55}$$

$$\text{RHS} = \left(\frac{1}{5} \times \frac{-7}{1}\right) \times \frac{6}{11} = \frac{-7}{5} \times \frac{6}{11} = \frac{-42}{55}$$

$$\text{LHS} = \text{RHS}$$

$$\text{Product} = \frac{-42}{55}$$

3 Simplify the following and verify the distributive property of multiplication over addition

(1) $3 \times \left(-\frac{6}{7} + \frac{1}{5}\right)$

Sol $\frac{3}{5} \times \left(-\frac{6}{7} + \frac{1}{5}\right) = \frac{3}{5} \times \left(\frac{-30+7}{35}\right) = \frac{3}{5} \times \frac{-23}{35}$
 $= \frac{-69}{175}$

Distributive property

$$3 \times \left(-\frac{6}{7} + \frac{1}{5}\right) = 3 \times -\frac{6}{7} + 3 \times \frac{1}{5}$$

LHS ~~a value~~ solved = $\frac{-69}{175}$

RHS $3 \times -\frac{6}{7} + 3 \times \frac{1}{5}$

$$\frac{-18}{7} + \frac{3}{5} = \frac{-90+21}{35} = \frac{-69}{35}$$

LHS = RHS

Hence proved

11 $2 \times \left[\frac{1}{9} + \left(-\frac{6}{11}\right)\right]$

$$2 \times \left[\frac{1}{9} + \left(-\frac{6}{11}\right)\right] = 2 \times \left[\frac{11+(-54)}{99}\right] = \frac{2 \times -43}{99}$$

$$= \frac{-86}{99}$$

Distributive property

$$2 \times \left[\frac{1}{9} \times \frac{-6}{11} \right] = 2 \times \frac{1}{9} + 2 \times \left(\frac{-6}{11} \right)$$

L.H.S is solved above

$$\text{R.H.S } 2 \times \frac{1}{9} + 2 \times \left(\frac{-6}{11} \right)$$

$$\frac{2}{9} + \frac{-12}{11} = \frac{22 + (-108)}{99} = \frac{-86}{99}$$

$$\text{L.H.S} = \text{R.H.S}$$

Hence proved

Q Name the property used in each case

(i) $\frac{9}{13} \times \frac{12}{11} = \frac{12}{11} \times \frac{9}{13}$ = Commutative (Ans)

(ii) $\frac{-6}{7} \times \left(\frac{5}{8} \times \frac{6}{11} \right) = \left(\frac{-6}{7} \times \frac{5}{8} \right) \times \frac{6}{11}$ = Associative

III $\frac{1}{7} \times \frac{3}{2} = \frac{3}{14}$ is a rational number = Closure

IV $\frac{2}{5} \times \left(\frac{1}{6} + \frac{2}{11} \right) = \frac{2}{5} \times \frac{1}{6} + \frac{2}{5} \times \frac{2}{11}$ = Distributive

V $1 \times \frac{6}{5} = \frac{6}{5}$ = property of 1

VI $\frac{-7}{8} \times 0 = 0 = 0 \times \frac{-7}{8}$ = property of zero

Q No- 5 (Allups) Need not to do in copy

Q No- 6 If $x=0$ $y=\frac{-8}{3}$ $z=1$ then verify

(i) $x \times y = y \times x$

L.H.S $x \times y = 0 \times \frac{-8}{3} = 0$

R.H.S $y \times x = \frac{-8}{3} \times 0 = 0$

Hence verified

$$\text{ii } x(y \times z) = (x \times y) \times z$$

$$\text{L.H.S } x \times (y \times z)$$

put value of x, y, z

$$0 \times \left(\frac{-8}{3} \times 1 \right) = 0 \times \frac{-8}{3} = 0$$

$$\text{R.H.S } (x \times y) \times z$$

$$\left(0 \times \frac{-8}{3} \right) \times 1 = 0 \times 1 = 0$$

Hence proved

(7) A man gets ₹12,000 per month as his salary. He saves $\frac{1}{4}$ of his monthly salary for six months. For the next six months, he saves $\frac{1}{5}$ of his monthly salary. Write total saving in the end of the year. What does the man possess?

Sol

$$\text{Total salary} = ₹12,000$$

$$\text{Saving of 1 month} = \frac{1}{4} \text{ of } 12,000$$

$$= \frac{1}{4} \times 12,000$$

$$= ₹3,000$$

$$\text{Saving of 6 months} = ₹3,000 \times 6$$

$$= ₹18,000$$

$$\text{New saving of 1 month} = \frac{1}{5} \text{ of } 12,000$$

$$= \frac{1}{3} \times \overset{2400}{12000} = 2400$$

$$\text{Saving of 6 month} = 6 \times 2400 \\ = ₹ 14400$$

$$\text{Total saving} = ₹ 18000 + ₹ 14400 \\ = 32400$$

values saving is good habit

Homework- Parts of 0 not, 3, 3 and 6

Let us do 1-5

B-1 Find a rational number between $\frac{1}{3}$ & $\frac{1}{4}$

To make denominator same as 24

$$\frac{1}{3} \times \frac{8}{8} = \frac{8}{24}$$

$$\frac{1}{4} \times \frac{6}{6} = \frac{6}{24}$$

There is $\frac{7}{24}$ between $\frac{8}{24}$ & $\frac{6}{24}$

3 Find 4 rational No between -6 and $\frac{4}{5}$

Make denominator 10

$$\frac{-6 \times 10}{1 \times 10} = \frac{-60}{10} \quad | \quad \frac{4 \times 2}{5 \times 2} = \frac{8}{10}$$

No between $-\frac{60}{10}$ and $\frac{8}{10}$

$-\frac{59}{10}, -\frac{58}{10}, -\frac{57}{10}, -\frac{56}{10}$

⑤ Insert three rational numbers lying

$-\frac{1}{2}$ and $-\frac{3}{4}$

Make denominator 20

$$-\frac{1}{2} \times \frac{10}{10} = -\frac{10}{20}$$

$$-\frac{3}{4} \times \frac{5}{5} = -\frac{15}{20}$$

No $\rightarrow -\frac{11}{20}, -\frac{12}{20}, -\frac{13}{20}, -\frac{14}{20}$

7.4 Find ⁵ rational no between

(i) $-\frac{3}{2}$ and $\frac{5}{3}$

Make denominator 12

$$-\frac{3}{2} \times \frac{6}{6} = -\frac{18}{12}$$

$$\frac{5}{3} \times \frac{6}{6} = \frac{30}{18}$$

No - $\frac{29}{18}, \frac{28}{18}, \frac{27}{18}, \frac{26}{18}, \frac{25}{18}$

iii $\frac{-2}{7}$ and $\frac{-1}{11}$

Make denominator 77

$$\frac{-2}{7} \times \frac{11}{11} = \frac{-22}{77}$$

$$\frac{-1}{11} \times \frac{7}{7} = \frac{-7}{77}$$

$$\text{No} = \frac{-8}{77}, \frac{-9}{77}, \frac{-10}{77}, \frac{-11}{77}, \frac{-12}{77}$$

⑧ Insert eight rational no between x and $|x|$ where $x = \frac{-5}{11}$

$$x = \frac{-5}{11} \quad |x| = \left| \frac{-5}{11} \right| = \frac{5}{11}$$

$$\frac{-5}{11}, \frac{5}{11}$$

$$\text{No} = \frac{-4}{11}, \frac{-3}{11}, \frac{-2}{11}, \frac{-1}{11}, \frac{0}{11}, \frac{1}{11}, \frac{2}{11}, \frac{3}{11}$$

How work \rightarrow ON 2, 4, 6 and parts of ON 0-7