



MATHS

BOOKS - NAND LAL PUBLICATION

RATIONAL NUMBERS

Question

1. Mention five rational numbers each of whose.

Numerator is a negative integer and denominator is a positive integer.



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2. Mention five rational numbers each of whose

Numerator is a positive integer and denominator is a negative integer.



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3. Mention five rational numbers each of whose.

Numerator and denominator are both negative integers.



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4. Mention five rational numbers each of whose.

Numerator and denominator are both positive integers.





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5. Are integers also rational numbers.



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6. Can you list five rational numbers between

$$\frac{-5}{7} \text{ and } \frac{-8}{7}$$



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7. Find $\frac{-4}{7} \times 3$



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8. Find $\frac{-6}{5} \times 4$.



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9. Divide $\frac{2}{3}$ by $\frac{-5}{7}$.



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Try These

1. Is the number $\frac{2}{-3}$ rational? Think about it.



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2. List ten rational numbers.



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3. Fill in the boxes

$$\frac{5}{4} = \frac{\square}{16} = \frac{25}{\square} = \frac{-15}{\square}$$



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4. Fill in the boxes

$$\frac{5}{4} = \frac{25}{\square}$$



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5. Fill in the boxes

$$\frac{5}{4} = \frac{-15}{\square}$$



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6. Fill in the boxes

$$\frac{-3}{7} = \frac{\square}{14} = \frac{9}{\square} = \frac{-6}{\square}$$



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7. Is 5 a positive rational number?



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8. List five more positive rational number?



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9. Is -8 a negative rational number?



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10. List five more negative rational number.



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11. Which of these are negative rational numbers?

$$-\frac{2}{3}$$



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12. Which of these are negative rational numbers?

$$\frac{5}{7}$$





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13. Which of these are negative rational numbers?

$$\frac{3}{-5}$$



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14. Which of these are negative rational numbers?

0



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15. Which of these are negative rational numbers?

$$\frac{6}{11}$$



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16. Which of these are negative rational numbers?

$$-\frac{2}{-9}$$



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17. Find the standard form of

$$-\frac{18}{45}$$



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18. Find the standard form of

$$-\frac{12}{18}$$



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19. Find five rational numbers between

$$\frac{-5}{7} \text{ and } \frac{-3}{8}$$



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20. Find: $-\frac{13}{7} + \frac{6}{7}, \frac{19}{5} + \left(-\frac{7}{5}\right)$



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21. Find: $-\frac{13}{7} + \frac{6}{7}, \frac{19}{5} + \left(-\frac{7}{5}\right)$



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22. Find

$$\frac{-3}{7} + \frac{2}{3}$$



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23. Find

$$\frac{-5}{6} + \frac{-3}{11}$$



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24. What will be the additive inverse of

$$-\frac{3}{9}?, -\frac{9}{11}?, \frac{5}{7}?$$



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25. Try to find $\frac{7}{8} - \frac{5}{9}$



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26. Try to find $\frac{3}{11} - \frac{8}{7}$



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27. Find:

$$\frac{7}{9} - \frac{2}{5}$$



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28. Find:

$$2\frac{1}{5} - \frac{-1}{3}$$



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29. What will be

$$-\frac{3}{5} \times 7?$$



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30. What will be

$$-\frac{6}{5} \times (-2)?$$



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31. Find

$$\frac{-3}{4} \times \frac{1}{7}$$



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32. Find:

$$\frac{2}{3} \times -\frac{5}{9}$$



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33. What will be the reciprocal of $-\frac{6}{11}$? and $-\frac{8}{5}$?



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34. Find

$$\frac{2}{8} \times \frac{-7}{8}$$



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35. Find:

$$-\frac{6}{7} \times \frac{5}{7}$$



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Exercise 9 1

1. List five rational numbers between:

-1 and 0



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2. List five rational numbers between:

-2 and -1



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3. List five rational numbers between:

$-\frac{4}{5}$ and $-\frac{2}{3}$



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4. List five rational numbers between

$$\frac{1}{2} \text{ and } \frac{2}{3}$$



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5. Write four more rational numbers in each of the following patterns:

$$-\frac{3}{5}, -\frac{6}{10}, -\frac{9}{15}, -\frac{12}{20}, \dots$$



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6. Write four more rational numbers in each of the following patterns:

$$-\frac{1}{4}, -\frac{2}{8}, -\frac{3}{12}, \dots$$



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7. Write four more rational numbers in each of the following patterns:

$$-\frac{1}{6}, \frac{2}{-12}, \frac{3}{-18}, \frac{4}{-24}, \dots$$



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8. Write four more rational numbers in each of the following patterns:

$$-\frac{2}{3}, \frac{2}{-3}, \frac{4}{-6}, \frac{6}{-9}, \dots$$



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9. Give four rational numbers equivalent to:

$$-\frac{2}{7}$$



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10. Give four rational numbers equivalent to:

$$\frac{5}{-3}$$



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11. Give four rational numbers equivalent to:

$$\frac{4}{9}$$



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12. Draw the number line and represent the following rational numbers on it:

$$\frac{3}{4}$$



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13. Draw the number line and represent the following rational numbers on it:

$$-\frac{5}{8}$$



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14. Draw the number line and represent the following rational numbers on it:

$$-\frac{7}{4}$$



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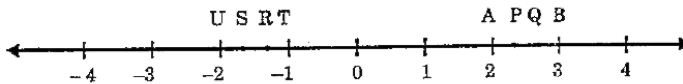
15. Draw the number line and represent the following rational numbers on it:

$$\frac{7}{8}$$



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16. The points P,Q,R,S,T,U,A and B on the number lines are such that $TR=RS=SU$ and $AP=PQ=QB$. Name the rational numbers represented by P,Q,R and S.



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17. Which of the following pairs represent the same rational number?

$$-\frac{7}{21} \text{ and } \frac{3}{9}$$



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18. Which of the following pairs represent the same rational number?

$$-\frac{16}{20} \text{ amd } \frac{20}{-25}$$



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19. Which of the following pairs represent the same rational number?

$$-\frac{2}{-3} \text{ amd } \frac{2}{3}$$



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20. Which of the following pairs represent the same rational number?

$$-\frac{3}{5} \text{ and } -\frac{12}{20}$$



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21. Which of the following pairs represent the same rational number?

$$\frac{8}{-5} \text{ and } -\frac{24}{15}$$



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22. Which of the following pairs represent the same rational number?

$$\frac{1}{3} \text{ and } -\frac{1}{9}$$



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23. Which of the following pairs represent the same rational number?

$$-\frac{5}{-9} \text{ and } \frac{5}{-9}$$



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24. Rewrite the following rational numbers in the simplest form:

$$-\frac{8}{6}$$



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25. Rewrite the following rational numbers in the simplest form:

$$\frac{25}{45}$$



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26. Rewrite the following rational numbers in the simplest form:

$$-\frac{44}{72}$$



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27. Rewrite the following rational numbers in the simplest form:

$$-\frac{8}{10}$$



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28. Fill in the boxes with the correct symbol out of $>$, $<$, and $=$.

$$-\frac{5}{7} \square \frac{2}{3}$$



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29. Fill in the boxes with the correct symbol of

$>$, $<$ and $=$

$$\frac{-4}{6} \square \frac{-5}{7}$$



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30. Fill in the boxes with the correct symbol out of $>$, $<$, and $=$.

$$-\frac{7}{8} \square \frac{14}{-16}$$



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31. Fill in the boxes with the correct symbol out of $>$, $<$, and $=$.

$$-\frac{8}{5} \square -\frac{7}{4}$$



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32. Fill in the boxes with the correct symbol out of $>$, $<$, and $=$.

$$\frac{1}{-3} \square - \frac{1}{4}$$



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33. Fill in the boxes with the correct symbol out of $>$, $<$, and $=$.

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



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34. Fill in the boxes with the correct symbol out of $>$, $<$, and $=$.

$$0 \square - \frac{7}{6}$$



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35. Which is greater in each of the following:

$$\frac{2}{3}, \frac{5}{2}$$



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36. Which is greater in each of the following:

$$-\frac{5}{6}, -\frac{4}{3}$$



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37. Which is greater in each of the following:

$$-\frac{3}{4}, \frac{2}{-3}$$



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38. Which is greater in each of the following:

$$-\frac{1}{4}, \frac{1}{4}$$



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39. Which is greater in each of the following:

$$-3\frac{2}{7}, -3\frac{4}{5}$$



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40. Write the following rational numbers in ascending order:

$$-\frac{3}{5}, -\frac{2}{5}, -\frac{1}{5}$$



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41. Write the following rational numbers in ascending order:

$$\frac{1}{3}, -\frac{2}{9}, -\frac{4}{3}$$



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42. Write the following rational numbers in ascending order:

$$-\frac{3}{7}, -\frac{3}{2}, -\frac{3}{4}$$



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Exercise 9 2

1. Find the sum:

$$\frac{5}{4} + \left(\frac{-11}{4} \right)$$



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2. Find the sum:

$$\frac{5}{3} + \frac{3}{5}$$



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3. Find the sum:

$$-\frac{9}{10} + \frac{22}{15}$$



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4. Find the sum:

$$-\frac{3}{-11} + \frac{5}{9}$$



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5. Find the sum:

$$-\frac{8}{19} + \frac{-2}{57}$$



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6. Find the sum:

$$-\frac{2}{3} + 0$$



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7. Find the sum:

$$-2\frac{1}{3} + 4\frac{3}{5}$$



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8. Find

$$\frac{7}{24} - \frac{17}{36}$$



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9. Find

$$\frac{5}{63} - \left(\frac{-6}{21} \right)$$



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10. Find

$$-\frac{6}{13} - \left(\frac{-7}{15}\right)$$



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11. Find

$$-\frac{3}{8} - \frac{7}{11}$$



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12. Find

$$-2\frac{1}{9} - 6$$



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13. Find the product:

$$\frac{9}{2} \times \left(\frac{-7}{4} \right)$$



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14. Find the product:

$$\frac{3}{10} \times (-9)$$



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15. Find the product:

$$\frac{-6}{5} \times \frac{9}{11}$$



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16. Find the product:

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



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17. Find the product:

$$\frac{3}{11} \times \frac{2}{5}$$



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18. Find the product:

$$\frac{3}{-5} \times \frac{-5}{3}$$



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19. Find the value of:

$$(-4) \div \frac{2}{3}$$



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20. Find the value of:

$$\frac{-3}{5} \div 2$$



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21. Find the value of:

$$\frac{-4}{5} \div (-3)$$



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22. Find the value of

$$\frac{-1}{8} + \frac{3}{4}$$



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23. Find the value of:

$$\frac{-2}{13} \div \frac{1}{7}$$



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24. Find the value of:

$$\frac{-7}{12} \div \left(\frac{-2}{13} \right)$$



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25. Find the value of

$$\frac{3}{13} + \left(\frac{-4}{65} \right)$$



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Additional Question For Practice

1. The number $\frac{-2}{9}$ lies to the of zero on the number line



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2. The multiplication inverse of $-2\frac{1}{5}$ is



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3. Two rational numbers are said to be if they have same value.



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4. The number $\frac{-5}{-7}$ lies to the right of ... on the number line.



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5. The sum of rational number $\frac{-3}{2}$ and its additive inverse is



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6. The rational number 1 and are their own reciprocals.



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7. Rational number $\frac{-2}{9}$ and $\frac{5}{-2}$ lie on opposite side of zero on the number line.



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8. Product of rational number and its reciprocal is 1.



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9. Additive inverse of 0 is 0



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10. Reciprocal of $2\frac{1}{7}$ is $\frac{15}{7}$



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11. A rational number $\frac{p}{q}$ is negative if both p and q are negative.



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12. Product of rational numbers and 1 is the number itself.



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13. Match the following

- (a) Two rational numbers between -1 and 1
- (b) Rational number which is negative to itself
- (c) Rational number which is equal to its reciprocal
- (d) Reciprocal of x is _____
- (e) Product of two negative rational numbers is _____
- (f) Rational number divided by itself is _____
- Positive
 $\frac{1}{x}$
negative
 $0, \frac{1}{2}$
 1
 0



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14. Write three rational numbers

which are equivalent to $\frac{-2}{7}$



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15. Write three rational numbers

which are greater than $\frac{-15}{9}$



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16. Write three rational numbers

which are smaller than $\frac{-11}{4}$



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17. Write three rational numbers

with numerator -6



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18. Write three rational numbers

with denominator -13



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19. What rational number must be added to

$\frac{-7}{10}$ to get $\frac{3}{5}$



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20. Sum of two rational numbers is $\frac{-4}{5}$. If one of them is $\frac{-2}{7}$ find the other.



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21. Find the cost of $4\frac{3}{4}$ m cloth at the rate of Rs $50\frac{1}{2}$ per metre.



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22. Find the perimeter of the rectangular park of length $12\frac{1}{2}m$ and breadth $9\frac{2}{3}m$



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23. Divide the sum of $\frac{13}{2}$ and $\frac{5}{3}$ by their difference.



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24. Divide the sum of $\frac{-13}{7}$ and $\frac{12}{5}$ by the product of $\frac{-11}{7}$ and $\frac{-1}{2}$



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25. Find the reciprocal

$$\left[\frac{25}{15} \times \frac{-32}{15} \right] - \left[6 \times \frac{1}{-2} \right]$$



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26. A bucket $\frac{7}{2}l$ of water in it. a leaking tap fills $\frac{1}{4}l$ of water in 1 hour. It was now kept under the leaking tap. How much water will be there in after $\frac{3}{2}$ hours?



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Sample Paper For Practice

1. Fill in the blanks

Standard form of $\frac{72}{-144}$ is.....



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2. Fill in the blanks

There are..... Rational numbers lying between any two rational numbers.



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3. Fill in the blanks

The additive inverse of $\frac{-2}{3}$ is.....



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4. Fill in the blanks

The product of a rational number $\frac{-3}{7}$ and its multiplication inverse is.....



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5. Fill in the blanks

0 divide by $-10\frac{4}{9}$ is.....



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6. Fill in the blanks

Every negative rational numbers is..... Than zero.



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7. Zero is the smallest rational number.



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8. Every integer and a fraction is a rational number



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9. Reciprocal of -1 is 1.



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10. $\frac{-7}{9}$ divide by 0 is 0



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11. Additive inverse of -1 is 1



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12. Sum of rational numbers and its additive inverse is 1 .



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13. Provide the correct number in the box

$$\frac{3}{7} + \square = -1$$



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14. Provide the correct number in the box

$$\square \times \frac{-4}{9} = \frac{4}{6}$$



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15. Provide the correct number in the box

$$1 + \left(\frac{3}{-5} \right) = \square$$



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16. Provide the correct number in the box

$$\frac{8}{5} + \square = -1$$



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17. Provide the correct number in the box

$$\frac{6}{11} \times \square = 1$$



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18. Provide the correct number in the box

$$\frac{-4}{3} \times \square = \frac{12}{15}$$



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19. What rational number must be subtracted

from $\frac{-3}{4}$ to obtain $\frac{-5}{8}$



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20. The product of two rational numbers is

$\frac{-9}{10}$ if one of them is $\frac{-27}{5}$ find the other.



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21. Find the value of x if $-3\frac{1}{4}$ and $\frac{x}{-24}$ are equivalent.



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22. Find four rational numbers between $\frac{-2}{3}$ and $\frac{-3}{2}$



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23. The rational number $\frac{-16}{35}$ is divided by a number and the quotient is $\frac{-8}{5}$. Find the number.



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24. Subtract the difference of $\frac{3}{4}$ and $\frac{5}{3}$ from their sum.



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