



MATHS

BOOKS - RS AGGARWAL MATHS (HINGLISH)

RATIONAL NUMBERS

Example

1. Find four rational numbers equivalent to each of the rational numbers :

$$(i) \frac{3}{4}$$

$$(ii) \frac{5}{-7}$$

$$(iii) \left(-\frac{8}{3} \right)$$



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2. write each of the following rational,

numbers with positive denominator $\frac{3}{8}, \frac{7}{-12},$

$$\frac{-5}{-2}, \frac{-13}{-8}.$$



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3. Express $\frac{-5}{13}$ as a rational number with positive numerator.



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4. express $\frac{-4}{7}$ as a rational number with

(i) numerator = -12. (ii) numerator = 20.



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5. Express $\frac{-3}{8}$ as a rational number with (i) denominator = 32 (ii) denominator = -40 .



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6. Express $\frac{-36}{48}$ as a rational number with denominator = 4.



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7. Express $\frac{27}{-45}$ as a rational number with denominator = 5.



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8. Express each of the following numbers in standard form :

(i) $\frac{21}{35}$

(ii) $\frac{-32}{40}$.

A. (i) $\frac{3}{5}$

(ii) $-\frac{4}{5}$

B. (i) $\frac{3}{7}$

(ii) $-\frac{2}{5}$

C. (i) $\frac{7}{5}$

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

D. (i) $\frac{3}{8}$

(ii) $-\frac{2}{5}$

Answer: A



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9. Express $\frac{-247}{228}$ in standard form.



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10. show that $\frac{-15}{18}$ and $\frac{5}{-6}$ are equivalent rational numbers.



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11. find x such that $\frac{-3}{8}$ and $\frac{x}{-24}$ are equivalent rational numbers.

A. -12

B. -9

C. 12

D. 9

Answer: D



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12. Represent $\frac{1}{2}$ and $-\frac{1}{2}$ on the number line.



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13. Represent $\frac{2}{3}$ and $-\frac{2}{3}$ on the number line.



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14. Represent $\frac{13}{5}$ and $-\frac{13}{5}$ on the number line .



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15. Which of the two rational number is greater in each of the following pairs ?

(i) $\frac{2}{3}$ or 0

(ii) $\frac{-3}{8}$ or 0 (iii) $\frac{-9}{5}$ or 0

A. (i) $\frac{2}{3}$

(ii) 0

(iii) $-\frac{9}{8}$

B. (i) $\frac{2}{3}$

(ii) 0

(iii) 0

C. (i) 0

(ii) 0

(iii) $-\frac{9}{8}$

D. (i) $\frac{2}{3}$

(ii) $-\frac{3}{8}$

(iii) $-\frac{9}{8}$

Answer: B



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16. Which of the rational numbers $\frac{-4}{11}$ and $\frac{2}{11}$ is greater ?

A. $\frac{2}{11}$

B. $\frac{-4}{11}$

C. both are equal

D. can not compare

Answer: A



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17. Which of the two rational number $\frac{2}{-3}$ and $\frac{-4}{5}$ is greater ?

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

B. $\frac{-4}{5}$

C. both are equal

D. can not be compared

Answer: A



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18. Arrange the rational numbers

$\frac{-3}{5}$, $\frac{7}{-10}$, $\frac{-5}{6}$ in ascending order .



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19. Arrange the rational numbers

$\frac{4}{-9}$, $\frac{-5}{6}$, $\frac{7}{-18}$ and $\frac{-2}{3}$ in descending

order.`



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20. List five rational numbers between -2 and -1.



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Solved Examples

1. EXAMPLE 1. Add $\frac{5}{9}$ and $\frac{-13}{9}$.



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2. Add $\frac{7}{-11}$ and $\frac{3}{7}$.



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3. Add $\frac{-2}{3}$ and $\frac{3}{4}$.



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4. Simplify: $\frac{7}{-27} + \frac{11}{18}$.



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5. EXAMPLE 5. Add $\frac{-3}{8}$ and $\frac{-5}{12}$.



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6. EXAMPLE 6. Add $\frac{9}{-16}$ and $\frac{-5}{-12}$.



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7. EXAMPLE 7. Find the sum:

$$\left(\frac{5}{9} + \frac{-7}{12} + \frac{11}{18} \right).$$



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8. EXAMPLE 8. Express each of the following rational number as the sum of an integer and a rational number:

(i) $\frac{19}{6}$ (ii) $\frac{-22}{5}$



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9. EXAMPLE 9. Rahul walks $\frac{2}{3}$ km from a place p towards east and then from there $1\frac{5}{6}$ km

towards west. What is his position now from p
?



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10. EXAMPLE 1. Find the additive inverse of:

(i) $\frac{5}{9}$ (ii) $\frac{-15}{7}$ (iii) $\frac{8}{-13}$ (iv) $\frac{-12}{-13}$



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11. EXAMPLE 2. Subtract (i) $\frac{3}{4}$ (from) $\frac{2}{3}$ (ii)

$\frac{-5}{7}$ (from) $\frac{-2}{5}$



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12. The sum of two rational numbers is -5. If of the numbers is $\frac{-13}{6}$, find the other.



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13.. What should be added to $\frac{-7}{8}$ to get $\frac{4}{9}$?



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14. What should be subtracted from $\frac{-2}{3}$ to get $\frac{5}{6}$?

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15. . Find the product:

(i) $\frac{2}{3} \times \frac{5}{7}$ (ii) $\frac{3}{4} \times \left(\frac{-5}{8}\right)$ (iii) $\frac{-4}{5} \times 6$

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16. . Simplify: (i) $\frac{-36}{7} \times \frac{-14}{9}$ (ii) $\frac{-8}{13} \times \frac{39}{-4}$



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17. Simplify: (i) $(7)(18) \times (-4)$ (ii)
 $(-36) \times ((-5)(9))$



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18. Simplify: (i) $\frac{-5}{9} \times \frac{63}{-100}$ (ii)
 $\frac{-11}{9} \times \frac{-21}{-44}$



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19. A car is moving at an average speed of $56\left(\frac{4}{5}\right)$ km/h. How much distance will it cover in $7\left(\frac{1}{2}\right)$ hours ?



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20. Write down the reciprocal of:

(i) $\frac{13}{7}$ (ii) $\frac{-8}{9}$ (iii) -6



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21. EXAMPLE 1. Simplify:

$$(i) \frac{7}{15} \div \frac{2}{3} \quad (ii) \frac{-8}{35} \div \frac{2}{7} \quad (iii) \frac{16}{21} \div \frac{-4}{3} \quad (iv) \frac{-9}{20} \div \frac{-3}{10}$$



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22. Fill in the blanks:

$$(27)(16) \div (\dots) = (-15)(8).$$



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23. The product of two rational numbers is $\frac{-8}{9}$. If one of the numbers is $\frac{-4}{15}$, find the other.



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24. By What number should $(-33)(8)$ be divided to get $(-11)(2)$?



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25. The cost of 15 pencils is $Rs37\frac{1}{2}$. Find the cost of each pencil.



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26. A car is moving at an average speed of $56\frac{4}{5}$ km/h. How much distance will it cover in $7\frac{1}{2}$ hours ?



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27. Write down the reciprocal of:

(i) $\frac{13}{7}$ (ii) $\frac{-8}{9}$ (iii) -6



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28. EXAMPLE 1. Simplify:

(i) $\frac{7}{15} \div \frac{2}{3}$ (ii) $\frac{-8}{35} \div \frac{2}{7}$ (iii) $\frac{16}{21} \div \frac{-4}{3}$ (iv)
 $\frac{-9}{20} \div \frac{-3}{10}$



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29. Fill in the blanks: $\frac{27}{16} \div (\dots) = \frac{-15}{8}$.



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30. The product of two rational numbers is $\frac{-8}{9}$. If one of the numbers is $\frac{-4}{15}$, find the other.



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31. By What number should $(-33)(8)$ be divided to get $(-11)(2)$?



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32. The cost of 15 pencils is $Rs37\frac{1}{2}$. Find the cost of each pencil.



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Exercise 4 A

1. What are rational numbers? Give Examples of five positive and five negative rational numbers. Is there any rational number which is neither positive nor negative? Name it.



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2. Which of the following are rational numbers?

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

(ii) $\frac{-6}{11}$

(iii) $\frac{7}{15}$

$$(iv) \frac{-8}{-12}$$

$$(v) 6$$

$$(vi) -3$$

$$(vii) 0$$

$$(viii) \frac{0}{1}$$

$$(ix) \frac{1}{0}$$

$$(x) \frac{0}{0}$$



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3. Write down the numerator and the denominator of each the of the following

rational numbers:

(i) $\frac{8}{19}$

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

(iii) $\frac{-13}{15}$

(iv) $\frac{-8}{-11}$

(v) 9



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4. Write each of the following integers as a rational number. Write the numerator and the denominator in each case.

(i) 5

(ii) -3

(iii) 1

(iv) 0

(v) -23



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5. Which of the following are positive rational numbers?

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

(ii) $\frac{-11}{15}$

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

$$(iv) \frac{37}{53}$$

$$(v) \frac{0}{3}$$

$$(vi) 8$$



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6. Which of the following are negative rational number?

$$(i) \frac{-15}{-4}$$

$$(ii) 0$$

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

$$(iv) \frac{4}{-9}$$

$$(v) -6$$

$$(vi) \frac{1}{-2}$$



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7. Find four rational number equivalent to each of the following.

$$(i) \frac{6}{11}$$

$$(ii) \frac{-3}{8}$$

$$(iii) \frac{7}{-15}$$

$$(iv) 8$$

(v) 1

(vi) -1



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8. Write each of the following as a rational number with positive denominator.

(i) $\frac{12}{-17}$

(ii) $\frac{1}{-2}$

(iii) $\frac{-8}{-19}$

(iv) $\frac{11}{-6}$



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9. Express $\frac{5}{8}$ as a rational number with numerator

(i) 15,

(ii) -10.



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10. Express $\frac{4}{7}$ as a rational number with denominator

(i) 21,

(ii) -35.



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11. Express $\frac{-12}{13}$ as a rational number with numerator

(i) -48,

(ii) 60.



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12. Express $\frac{-8}{11}$ as a rational number with denominator

(i) 22,

(ii) -55.



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13. Express $\frac{14}{-5}$ as a rational number with numerator

(i) 56,

(ii) -70.



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14. Express $\frac{13}{-8}$ as a rational number with denominator

(i) -40,

(ii) 32.



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15. Express $\frac{-36}{24}$ as a rational number with numerator

(i) -9,

(ii) -6.





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16. Express $\frac{84}{-147}$ as a rational number with denominator

(i) 7,

(ii) -49.



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17. Write each of the following rational number in standard form:

(i) $\frac{35}{49}$

$$(ii) \frac{8}{-36}$$

$$(iii) \frac{-27}{45}$$

$$(iv) \frac{-14}{-49}$$

$$(v) \frac{91}{-78}$$

$$(vi) \frac{-68}{119}$$

$$(vii) \frac{-87}{116}$$

$$(viii) \frac{299}{-161}$$



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18. Fill in the blanks:

$$(i) \frac{-9}{5} = \frac{\dots}{20} = \frac{27}{\dots} = \frac{-45}{\dots}$$

$$(ii) \frac{-6}{11} = \frac{-18}{\dots} = \frac{\dots}{44}$$



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19. Which of the following are pairs of equivalent rational numbers?

$$(i) \frac{-13}{7}, \frac{39}{-21}$$

$$(ii) \frac{3}{-8}, \frac{-6}{16}$$

$$(iii) \frac{9}{4}, \frac{-36}{-16}$$

$$(iv) \frac{7}{15}, \frac{-28}{60}$$

$$(v) \frac{3}{12}, \frac{-1}{4}$$

$$(vi) \frac{2}{3}, \frac{3}{2}$$



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20. Find x such that:

$$(i) \frac{-1}{5} = \frac{8}{x}$$

$$(ii) \frac{7}{-3} = \frac{x}{6}$$

$$(iii) \frac{3}{5} = \frac{x}{-25}$$

$$(iv) \frac{13}{6} = \frac{-65}{x}$$

$$(v) \frac{16}{x} = -4$$

$$(vi) \frac{-48}{x} = 2$$



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21. Which of the following rational number are equal?

(i) $\frac{8}{-12}$ (and) $\frac{-10}{15}$

(ii) $\frac{-3}{9}$ (and) $\frac{7}{-21}$

(iii) $\frac{-8}{-14}$ (and) $\frac{15}{21}$



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22. State whether the given statement is true or false:

(i) Zero is the smallest rational number.

(ii) Every integer is a rational number.

(iii) The quotient of two integers is always a rational number.

(iv) Every fraction is a rational number.

(v) Every rational number is a fraction.



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Exercise 4 B

1. Represent each of the following rational number on the number line:

$$(i) \frac{1}{3}$$

$$(ii) \frac{2}{7}$$

$$(iii) \frac{7}{3}$$

$$(iv) \frac{22}{7}$$

$$(v) \frac{37}{8}$$

$$(vi) \frac{-1}{3}$$

$$(vii) \frac{-3}{4}$$

$$(viii) \frac{-12}{7}$$

$$(ix) \frac{36}{-5}$$

$$(x) \frac{-43}{9}$$



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2. Which of the two rational number is greater in each of the following pairs?

(i) $\frac{5}{6}$ (or) 0

(ii) $\frac{-3}{5}$ (or) 0

(iii) $\frac{5}{8}$ (or) $\frac{3}{8}$

(iv) $\frac{7}{9}$ (or) $\frac{-5}{9}$

(v) $\frac{-6}{11}$ (or) $\frac{5}{-11}$

(vi) $\frac{-15}{4}$ (or) $\frac{-17}{4}$



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3. Which of the rational number is greater in each of the following pairs?

(i) $\frac{5}{9}$ (or) $\frac{-3}{-8}$

(ii) $\frac{4}{-3}$ (or) $\frac{-8}{7}$

(iii) $\frac{-12}{5}$ (or) -3

(iv) $\frac{7}{-9}$ (or) $\frac{-5}{8}$

(v) $\frac{4}{-5}$ (or) $\frac{-7}{8}$

(vi) $\frac{9}{-13}$ (or) $\frac{7}{-12}$



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4. Fill in the blanks with the correct symbol

out of $>$, $=$ and $<$:

$$(i) \frac{-3}{7} \dots \frac{6}{-13}$$

$$(ii) \frac{5}{-13} \dots \frac{-35}{91}$$

$$(iii) -2 \dots \frac{-13}{5}$$

$$(iv) \frac{-2}{3} \dots \frac{5}{-8}$$

$$(v) 0 \dots \frac{-3}{-5}$$

$$(vi) \frac{-8}{9} \dots \frac{-9}{10}$$



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5. Arrange the following rational number in ascending order:

(i) $\frac{2}{5}, \frac{7}{10}, \frac{8}{15}, \frac{13}{30}$

(ii) $\frac{-3}{4}, \frac{5}{-12}, \frac{-7}{16}, \frac{9}{-24}$

(iii) $\frac{-3}{10}, \frac{7}{-15}, \frac{-11}{20}, \frac{17}{-30}$

(iv) $\frac{2}{3}, \frac{3}{4}, \frac{5}{-6}, \frac{-7}{12}$



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6. Arrange the following rational number in descending order:

$$\frac{-2}{5}, \frac{7}{-10}, \frac{-11}{15}, \frac{19}{-30}$$

A. $\frac{-2}{5} > \frac{-11}{15} > \frac{7}{-10} > \frac{19}{-30}$

B. $\frac{-11}{15} > \frac{19}{-30} > \frac{7}{-10} > \frac{-2}{5}$

C. $\frac{-2}{5} > \frac{19}{-30} > \frac{7}{-10} > \frac{-11}{15}$

D. none of these

Answer: C



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7. Which of the following statements are true?

(i) $-\frac{3}{5}$ lies to the left of 0 on the number line.

(ii) $-\frac{12}{7}$ lies to the right of 0 on the number line.

(iii) $\frac{1}{3}$ (and) $-\frac{5}{2}$ lies to opposite side of 0 on the number line.

(iv) $-\frac{18}{-13}$ lies to the left of 0 on the number line.

(v) $-\frac{5}{-8}$ lies on the right of $-\frac{5}{7}$ on the number line.



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8. Find five rational numbers between -3 and -2.



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9. Find five rational numbers between -1 and 1.



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10. Find five rational numbers between

$$\frac{-3}{5} \text{ (and) } \frac{-1}{2}.$$



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Exercise 4 C

1. Add the following rational numbers :

(i) $\frac{12}{7}$ and $\frac{3}{7}$:

(ii) $\frac{-2}{5}$ and $\frac{1}{5}$

(iii) $\frac{3}{8}$ and $\frac{1}{8}$

(iv) $\frac{-5}{11}$ and $\frac{7}{-11}$

(v) $\frac{9}{-13}$ and $\frac{-11}{-13}$

(vi) $\frac{-2}{9}$ and $\frac{5}{9}$

$$(vii) -\frac{17}{9} \text{ and } \frac{-11}{9}$$

$$(viii) \frac{-3}{7} \text{ and } \frac{5}{-7}$$



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2. Add the following rational numbers :

$$(i) \frac{-2}{5} \text{ and } \frac{3}{4}$$

$$(ii) \frac{-5}{9} \text{ and } \frac{2}{3}$$

$$(iii) (-4) \text{ and } \frac{1}{2}$$

$$(iv) \frac{-7}{27} \text{ and } \frac{5}{18}$$

$$(v) \frac{-5}{36} \text{ and } \frac{-7}{12}$$

$$(vi) \frac{1}{-9} \text{ and } \frac{4}{-27}$$

$$(vii) \frac{-9}{24} \text{ and } \frac{-1}{18}$$

$$(viii) \frac{27}{-4} \text{ and } \frac{-15}{8}$$



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3. Evaluate :

$$(i) \frac{-3}{5} + \frac{7}{5} + \frac{-1}{5}$$

$$(ii) \frac{-12}{7} + \frac{3}{7} + \frac{-2}{7}$$

$$(iii) \frac{11}{-12} + \frac{3}{-8} + \frac{1}{4}$$

$$(iv) \frac{-16}{9} + \frac{-5}{12} + \frac{7}{18}$$

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

$$(vi) \frac{-13}{8} + \frac{5}{16} + \frac{-1}{4}$$



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4. Evaluate

$$(i) \frac{-8}{15} + \frac{2}{-3}$$

$$(ii) \frac{-7}{10} + \frac{13}{-15} + \frac{27}{20}$$

$$(iii) -1 + \frac{7}{-9} + \frac{11}{12}$$

$$(iv) \frac{-11}{39} + \frac{5}{26} + 2$$

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

$$(vi) \frac{-9}{11} + \frac{2}{3} + \frac{-3}{4}$$



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5. Express each of the following rational numbers as the sum of an integer and a rational number :

(i) $\frac{12}{5}$

(ii) $\frac{-11}{7}$

(iii) $\frac{-25}{9}$

(iv) $\frac{-103}{20}$



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Exercise 4 D

1. Find the additive inverse of :

(i) 5

(ii) -9

(iii) $\frac{3}{14}$

(iv) $\frac{-11}{15}$

(v) $\frac{15}{-4}$

(vi) $\frac{-18}{-13}$

(vii) 0

(viii) $\frac{1}{-6}$



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2. Subtract : (i) $\frac{3}{4}$ from $\frac{1}{3}$

(ii) $\frac{-5}{6}$ from $\frac{1}{3}$

(iii) $\frac{-8}{9}$ from $\frac{-3}{5}$

(iv) $\frac{-9}{7}$ from -1

(v) $\frac{-18}{11}$ from 1 (vi) $(-13)/(9)$ from 0 (vii) $(32)/(13)$

from $\frac{-6}{5}$ (viii) -7 from $\frac{-4}{7}$ (ix) $\frac{5}{9}$ from $(-2)/(3)$

(x) 5 from $(-3)/(5)$



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3. Evaluate :

(i) $(3)/(4) - (4)/(5)$ (ii) $-3 - (4)/(7)$ (iii) $(7)/(24) -$

$(19)/(36)$ (iv) $(14)/(15) - (13)/(20)$ (v) $(4)/(9) - (2)/(-3)$

(vi) $(7)/(11) - (-4)/(-11)$ (vii) $(-5)/(14) - \frac{-2}{7}$

(viii) $\frac{-5}{-8} - \frac{-3}{4}$



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4. Subtract the sum of $\frac{-36}{11}$ and $\frac{49}{22}$ from the sum of $\frac{33}{8}$ and $\frac{-19}{4}$



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5. The sum of two rational numbers is $\frac{4}{21}$ If one of them is $\frac{3}{7}$, Find the other .



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6. The sum of two rational numbers is $\frac{-3}{8}$ If one of them is $\frac{3}{16}$, Find the other .



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7. The sum of two rational number is -3. If one of them is $\frac{-15}{7}$ find the other

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8. The sum of two rational number is $\frac{-4}{3}$. If one of them is -5, Find the other .

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9. What should be added to $\frac{3}{8}$ to get $\frac{5}{12}$?



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10. What should be added to $-\frac{12}{5}$ to get 3?



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11. What should be added to $-\frac{5}{7}$ to get $-\frac{2}{3}$?



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12. What should be added to $\frac{2}{9}$ to get -1?



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13. What should be added to $\left(\frac{-13}{4} + \frac{-3}{8}\right)$ to get 1?



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14. What should be subtracted from $\frac{-3}{4}$ to get $\frac{5}{6}$?



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15. What should be subtracted from $\frac{-2}{3}$ to get $\frac{-5}{6}$?



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16. What should be subtracted from $\frac{-3}{4}$ to get 1 ?



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Exercise 4 E

1. Multiply :

(i) $\frac{3}{4}$ by $\frac{5}{7}$

(ii) $\frac{9}{8}$ by $\frac{32}{2}$

(iii) $\frac{7}{6}$ by 24 (iv) $\frac{-2}{3}$ by $\frac{6}{7}$ (v) $\frac{-12}{5}$

by $\frac{10}{-3}$

(vi) $\frac{25}{-9}$ by $\frac{3}{-10}$

(vii) $\frac{-7}{10}$ by $\frac{-40}{21}$

(viii) $\frac{-36}{5}$ by $\frac{20}{-3}$

(ix) $\frac{-13}{15}$ by $\frac{-25}{26}$



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2. Simplify :

$$(i) \frac{3}{20} \times \frac{4}{5}$$

$$(ii) \frac{-7}{30} \times \frac{5}{14}$$

$$(iii) \frac{5}{-18} \times \frac{-9}{20}$$

$$(iv) \frac{-9}{8} \times \frac{-16}{3}$$

$$(v) -32 \times \frac{-7}{36}$$

$$(vi) \frac{16}{-21} \times \frac{-14}{5}$$



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3. Simplify : (i) $\frac{7}{24} \times -48$

(ii) $\frac{-19}{36} \times 16$

(iii) $\frac{-3}{4} \times \frac{4}{3}$

(iv) $-13 \times \frac{17}{26}$

(v) $\frac{-13}{5} \times -10$

(vi) $\frac{-9}{16} \times \frac{-64}{27}$



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4. Simplify :

(i) $\left(\frac{13}{8} \times \frac{12}{13}\right) + \left(\frac{-4}{9} \times \frac{3}{-2}\right)$

$$(ii) \left(\frac{16}{15} \times \frac{-25}{8} \right) + \left(\frac{-14}{27} \times \frac{6}{7} \right)$$

$$(iii) \left(\frac{6}{55} \times \frac{-22}{9} \right) - \left(\frac{26}{125} \times \frac{-10}{39} \right)$$

$$(iv) \left(\frac{-12}{7} \times \frac{-14}{27} \right) - \left(\frac{-8}{-45} \times \frac{9}{16} \right)$$



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5. Find the cost of $3\frac{1}{3}$ metres of cloth at Rs $40\frac{1}{2}$ per metre .



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6. A bus is moving at an average speed of $46\frac{2}{3} \text{ Km/h}$. How much distance will $2\frac{2}{5}$ hours?



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Exercise 4 F

1. Find the multiple inverse or reciprocal of each of the following :

(i) 18

(ii) -16

(iii) $\frac{13}{25}$

(iv) $\frac{-17}{12}$

(v) $\frac{-6}{19}$

(vi) $\frac{-3}{-5}$

(vii) -1

(viii) 0



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2. Simplify :

(i) $\frac{4}{9} \div \left(\frac{-5}{12} \right)$

$$(ii) -8 \div \left(\frac{-5}{16} \right)$$

$$(iii) \frac{-12}{7} \div (-18)$$

$$(iv) \left(\frac{-1}{10} \right) \div \left(\frac{-8}{5} \right)$$

$$(v) \left(\frac{-16}{35} \right) \div \left(\frac{-15}{14} \right)$$

$$(vi) \left(\frac{-65}{14} \right) \div \left(\frac{13}{-7} \right)$$



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3. Fill in the blanks :

$$(i) (\dots) \div \left(\frac{-7}{5} \right) = \frac{10}{19}$$

$$(ii) (\dots\dots) \div (-3) = \frac{-4}{15}$$

$$(iii) \frac{9}{8} \div (\dots\dots\dots) = \frac{-3}{2}$$

$$(iv) (-12) + (\dots\dots\dots) = \frac{-6}{5}$$



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4. Divide the sum of $\frac{65}{12}$ and $\frac{8}{3}$ by their difference.



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5. By what number should $\frac{-44}{9}$ be divided to get $\frac{-11}{3}$?



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6. By what number should $\frac{-8}{15}$ be multiplied to get 24?



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7. The product of two rational number is 10. if one of the numbers is -8. find the other .



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8. The product of two rational number is -9 . If one of the numbers is -12 , find the other



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9. The product of two rational numbers is $\frac{-16}{9}$. If one of the numbers is $\frac{-4}{3}$ find the other .



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10. By what rational number should $\frac{-8}{39}$ be multiplied to obtain $\frac{5}{26}$?



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11. If 24 trousers of equal size can be prepared in 54 metre of cloth, what length of cloth is required for each trouser?



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12. How many pieces each of length $3\frac{3}{4}m$ can be cut from a rope of length $30m$?

A. 5

B. 6

C. 8

D. 2

Answer: C



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13. The cost of $2\frac{1}{2}$ meters of cloth is Rs $78\frac{3}{4}$.

Find the cost of cloth per metre.



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Exercise 4 G Objective Type Questions

1. Write $\frac{33}{-55}$ in standard form is

A. $\frac{3}{-55}$

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

C. $\frac{-33}{55}$

D. none of these

Answer: B



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2. $-\frac{102}{119}$ in standard form is $-\frac{6}{7}$ (b) $\frac{6}{7} - \frac{6}{17}$

(d) None of these

A. $(-4)(7)$

B. $\frac{-6}{7}$

C. $\frac{-6}{17}$

D. none of these

Answer: B



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3. If $\frac{x}{6} = \frac{7}{-3}$. Then the value of x is

A. -14

B. 14

C. 21

D. -21

Answer: A



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4. What should be added to $\frac{-5}{9}$ to get 1?



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5. What should be subtracted from $\frac{-3}{4}$ so as to get $\frac{5}{6}$?

A. $\frac{19}{12}$

B. $\frac{-19}{12}$

C. $\frac{1}{12}$

D. $\frac{-1}{12}$

Answer: B



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6. Which is larger out of $\frac{5}{-6}$ and $\frac{-7}{12}$?

A. $\frac{-5}{6}$

B. $\frac{-7}{12}$

C. cannot be compared

D. None of the above

Answer: B



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7. Which is larger out of $\frac{2}{3}$ and $\frac{-4}{5}$?



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8. Multiplicative inverse of -6 is

A. 6

B. $\frac{1}{6}$

C. $\frac{-1}{6}$

D. none of these

Answer: C



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9. Reciprocal of $\frac{-2}{3}$

A. $\frac{2}{3}$

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

C. $\frac{3}{2}$

D. none of these

Answer: (b)



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10. Find the value of X $-2\frac{1}{9} - 6 = X$

A. $-8\frac{1}{9}$

B. $8\frac{1}{9}$

C. $(4(1))/(9)$

D. $-4\frac{1}{9}$

Answer: (b)



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11. Find the value of x . $\frac{-6}{13} - \frac{-7}{15} = x$

A. $\frac{-181}{195}$

B. $\frac{181}{195}$

C. $\frac{1}{195}$

D. $\frac{-1}{195}$

Answer: C



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12. Find the value of x

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

A. $1\frac{1}{21}$

B. $\frac{5}{21}$

C. $\frac{-5}{21}$

D. none

Answer: B



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13. Which is greater between $\frac{-4}{9}$ and $\frac{-5}{12}$?

A. $\frac{-4}{9}$

B. $\frac{-5}{12}$

C. both are equal

D. can not compare

Answer: B



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14. Find the value of x $\frac{-9}{14} + x = -1$

A. $\frac{5}{14}$

B. $\frac{-5}{14}$

C. $\frac{1}{7}$

D. $\frac{-1}{7}$

Answer: (b)



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15. Find the value of X: $\frac{5}{4} - \frac{7}{6} - \left(\frac{-2}{3}\right) = X$

A. $\frac{3}{4}$

B. $\frac{-3}{4}$

C. $\frac{-7}{12}$

D. $\frac{7}{12}$

Answer: (a)



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16. Find the value of x if $1 \div \frac{1}{2} = x$

A. $\frac{1}{2}$

B. 2

C. $2\frac{1}{2}$

D. $1\frac{1}{2}$

Answer: B



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17. find the value of $x \frac{-3}{14} \cdot x = \frac{5}{12}$

A. $\frac{-35}{18}$

B. $\frac{35}{18}$

C. $\frac{7}{3}$

D. $\frac{-7}{3}$

Answer: (a)



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18. Find the value of X $0 \div \frac{-7}{5} = X$

A. not defined

B. $\frac{-5}{7}$

C. 0

D. $\frac{5}{7}$

Answer: (c)



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19. Find the value of x : $\frac{-3}{8} \div 0 = x$

A. $\frac{-3}{8}$

B. 0

C. $\frac{-8}{3}$

D. not defined

Answer: (d)



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1. Express each of the following rational numbers in standard form :

(i) $\frac{-209}{247}$

(ii) $\frac{-46}{115}$

(iii) $\frac{84}{-147}$



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2. which of the following rational number is

equal to $\frac{11}{6}$

A. $\frac{10}{2}$

B. $\frac{33}{12}$

C. $\frac{44}{42}$

D. $\frac{55}{30}$

Answer: D



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3. The sum of rational numbers is -4. if one of them is $\frac{-11}{6}$. Find the other .



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4. What should be added to $\frac{-7}{8}$ to get $\frac{5}{9}$?



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5. A car is moving at an average speed of $56\frac{3}{5}$ km per hour . How much distance will cover in $7\frac{1}{2}$ hours ?



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6. By what number should $-4\frac{3}{8}$ be divided to obtain $-3\frac{1}{2}$?

A. $\frac{3}{4}$

B. $\frac{1}{4}$

C. $\frac{5}{4}$

D. $\frac{9}{7}$

Answer: C



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7. How many pieces of length $3\frac{3}{4}$ m. can be cut from a rope of length 45 m ?



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8. Find the cost of $3\frac{1}{3}$ m. of cloth at Rs $121\frac{1}{2}$ per ,metre .



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9. Write $\frac{55}{-66}$ in simplified form

A. $\frac{6}{-5}$

B. $\frac{-5}{6}$

C. $\frac{-55}{66}$

D. none of these

Answer: B



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10. What should be subtracted from $\frac{-2}{3}$ to get $\frac{3}{4}$?

A. $\frac{-17}{12}$

B. $\frac{17}{12}$

C. $\frac{-13}{17}$

D. $\frac{-12}{17}$

Answer: A



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11. The product of two numbers is $\frac{-1}{6}$. If one of them is $\frac{-5}{8}$ the other number is

A. $\frac{-4}{15}$

B. $\frac{4}{15}$

C. $\frac{15}{4}$

D. $\frac{-15}{4}$

Answer: B



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12. The reciprocal of $\frac{-3}{4}$ is

A. $\frac{3}{4}$

B. $\frac{4}{3}$

C. $\frac{-4}{3}$

D. none of these

Answer: (c)



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13. Find the value of x

$$\frac{-9}{14} + x = -1$$

A. $\frac{5}{14}$

B. $\frac{-5}{14}$

C. $\frac{1}{7}$

D. $\frac{-1}{7}$

Answer: B



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14. Simplify

$$78\frac{3}{4} \div 2\frac{1}{2} = ?$$

A. $31\frac{1}{2}$

B. $39\frac{3}{8}$

C. $40\frac{1}{3}$

D. none of these

Answer: A



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15. Which is smaller $\frac{-5}{6}$ and $\frac{-7}{12}$?

A. $\frac{-5}{6}$

B. $\frac{-7}{12}$

C. Cannot be compared

D. both are equal

Answer: A



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16. Fill in the blanks .

$$(i) (\dots\dots\dots) + \left(\frac{-7}{5}\right) = \frac{-2}{3}$$

$$(ii) \left(\frac{-65}{14}\right) \div (\dots\dots\dots) = 2\frac{1}{2}$$

$$(iii) \frac{-3}{8} + (\dots\dots\dots) = \frac{5}{12}$$

(iv) Multiplicate inverse of $-1\frac{3}{4}$ is



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17. Write 'T' for true and 'F' for false each of the following :

(i) $\frac{-15}{-11}$ lies to the left of 0 on the number line

.

(ii) $\frac{1}{3}$ and $\frac{-3}{2}$ lie on opposite sides of 0 on the number line .

(iii) $\frac{-18}{13}$ lies to the left of 0 on the number line .



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