

MATHS

BOOKS - RD SHARMA MATHS (HINGLISH)

OPERATIONS ON RATIONAL NUMBERS

All Questions

1. $Add \frac{3}{5} and \frac{13}{5}$



2. $Add \frac{7}{9} and \frac{-12}{9}$



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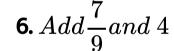
3. $Add \frac{-5}{9} \ and \frac{-17}{9}$



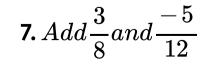
- **4.** $Add \frac{4}{-11}$ and $\frac{7}{11}$
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5. $Add \frac{5}{12} and \frac{3}{8}$











8. Simplify:
$$\frac{8}{-15} + \frac{4}{-3}$$



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- **9.** Simplify: $\frac{7}{-26} + \frac{16}{39}$
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10. Add the following rational numbers:

$$\frac{-5}{7}$$
 and $\frac{3}{7}$ (ii) $\frac{-15}{4}$ and $\frac{7}{4}$



11. Add the following rational numbers:

$$\frac{-8}{11}$$
 and $\frac{-4}{11}$ (ii) $\frac{6}{13}$ and $\frac{-9}{13}$



12. Add the following rational numbers:

$$\frac{3}{4} \ and \ \frac{-3}{5} \ (ii) - 3 \ and \frac{3}{5}$$



13. Add the following rational numbers:

$$\frac{-7}{27}$$
 and $\frac{11}{18}$ (ii) $\frac{31}{-4}$ and $\frac{-5}{8}$



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14. Simplify: $\frac{8}{9} + \frac{-11}{6}$ (ii) $\frac{-5}{16} + \frac{7}{24}$



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15. Simplify: $\frac{1}{-12} + \frac{2}{-15}$ (ii) $\frac{-8}{19} + \frac{-4}{57}$



16. Add and express the sum as a mixed

fraction:
$$\dfrac{-12}{5}+\dfrac{43}{10}$$
 (ii) $\dfrac{24}{7}+\dfrac{-11}{4}$ (iii) $\dfrac{-31}{6}+\dfrac{-27}{8}$

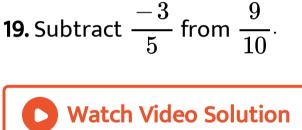


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17. Subtract

18. Subtract
$$\frac{-3}{8}$$
 from $\frac{-5}{7}$







20. The sum of two rational numbers is $\frac{-3}{5}$. If one of the number is $\frac{-9}{20}$, find the other.



21. What number should be added to $\frac{-5}{8}$ so as to get $\frac{5}{9}$?



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



23. Simplify :
$$\frac{-2}{3} + \frac{5}{9} - \frac{-7}{6}$$
 $\frac{5}{10} + \frac{-5}{10} - \frac{7}{24}$

 $\frac{5}{12} + \frac{-5}{18} - \frac{7}{24}$

(ii)



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24. Subtract the first rational number from the second in each of the following: $\frac{3}{8}, \frac{5}{8}$ (ii) $\frac{-7}{9}, \frac{4}{9}$



25. Subtract the first rational number from the second in each of the following: $\frac{-2}{11}$, $\frac{-9}{11}$ (ii) $\frac{11}{13}$, $\frac{-4}{13}$



26. Evaluate each of the following:
$$\frac{2}{3}-\frac{3}{5}$$
 (ii)
$$-\frac{4}{7}-\frac{2}{-3}$$



27. Evaluate each of the following:
$$\frac{4}{7} - \frac{-5}{-7}$$
 (ii) $-2 - \frac{5}{9}$



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28. The sum of the two numbers is $\frac{5}{9}$. If one of the numbers is $\frac{1}{3}$, Find the other.



29. The sum of two numbers is $\frac{-1}{3}$. If one of the numbers is $\frac{-12}{3}$, Find the other.



30. The sum of two numbers is $\frac{-4}{3}$. If one of the numbers is 05, find the other.



31. The sum of two rational numbers is -8. If one of the numbers is $\frac{-15}{7}$, find the other.

32. What number should be added to $\frac{-7}{8}$ so as



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to get $\frac{5}{9}$?



33. What should be added to $\frac{-5}{11}$ so as to get



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



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

36. What number should be subtracted from $3\frac{1}{2}$



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to get $1\frac{2}{7}$



37. What should be added to
$$\left(\frac{2}{3} + \frac{3}{5}\right)$$
 to get $\frac{-2}{15}$?

38. What should be added to $\left(\frac{1}{2} + \frac{1}{3} + \frac{1}{5}\right)$ to

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get 3?

39. What should be subtracted form
$$\left(\frac{3}{4} - \frac{2}{3}\right)$$
 to get $\frac{-1}{6}$?



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41. Simplify:
$$\frac{-2}{5} - \frac{-3}{10} - \frac{-4}{7}$$

40. Simplify: $\frac{-3}{2} + \frac{5}{4} - \frac{7}{4}$ (ii) $\frac{5}{3} - \frac{7}{6} + \frac{-2}{3}$

$$: \qquad \frac{5}{4} - \frac{7}{6} - \frac{-2}{3}$$

(ii)

42. Fill in the blanks:
$$\frac{-4}{13}-\frac{-3}{26}=$$
 (ii) $\frac{-9}{14}+=-1$

43. Fill in the blanks: $\frac{-7}{9} + = 3$ (ii) $+\frac{15}{23} = 4$





45. Multiply:
$$\left(\frac{-5}{9}\right)$$
 by 4 (ii) $\left(\frac{-36}{7}\right)$ by

44. Multiply: $\frac{3}{4}$ by $\frac{5}{7}$ (ii) $\frac{3}{7}$ by $\left(\frac{-4}{5}\right)$

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$$\left(-\frac{28}{9}\right)$$



46. Simplify: $\frac{-8}{7} \times \frac{14}{5}$ (ii) $\frac{13}{6} \times \frac{-18}{91}$

47. Simplify:
$$\frac{-5}{9} imes \frac{72}{-125}$$
 (ii) $\frac{-22}{9} imes \frac{-51}{-88}$

48. Simplify: $\left(\frac{-16}{5} \times \frac{20}{8}\right) - \left(\frac{15}{5} \times \frac{-35}{5}\right)$



$$\left(rac{-3}{2} imesrac{4}{5}
ight)+\left(rac{9}{5} imesrac{-10}{3}
ight)-\left(rac{1 imes3}{2 imes4}
ight)$$
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49. Multiply:
$$\frac{7}{11}by\frac{5}{4}$$
 (ii) $\frac{5}{7}by\frac{-3}{4}$

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50. Multiply: $\frac{-2}{9}by\frac{5}{11}$ (ii) $\frac{-3}{17}by\frac{-5}{11}$

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52. Multiply:
$$\frac{-8}{25}$$
 by $\frac{-5}{16}$ (ii) $\frac{6}{7}$ by $\frac{-49}{36}$

51. Multiply: $\frac{-5}{17}by\frac{51}{-60}$ (ii) $\frac{-6}{11}by\frac{-55}{36}$



53. Simplify each of the following and express the result as a rational number in standard from:

$$rac{-16}{21} imesrac{14}{5}$$
 (ii) $rac{7}{6} imesrac{-3}{28}$



$$rac{-19}{36} imes16$$
 (ii) $rac{-13}{9} imesrac{27}{-26}$

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55. Simplify:
$$\left(-5 \times \frac{2}{15}\right) - \left(-6 \times \frac{2}{9}\right)$$
 (ii) $\left(\frac{-9}{4} \times \frac{5}{3}\right) + \left(\frac{13}{2} \times \frac{5}{6}\right)$



56.

$$\left(\frac{13}{9} imes \frac{-15}{2}\right) + \left(\frac{7}{3} imes \frac{8}{5}\right) + \left(\frac{3}{5} imes \frac{1}{2}\right)$$

Simplify:

$$\left(\frac{3}{11} \times \frac{5}{6}\right) - \left(\frac{9}{12} \times \frac{4}{3}\right) + \left(\frac{5}{13} \times \frac{6}{15}\right)$$



57. Write the reciprocal of each of the following rational numbers: 7 (ii) -11



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58. Write the reciprocal of each of the following rational numbers: $\frac{2}{5}$ (ii) $\frac{-7}{15}$



59. Find the reciprocal of: $\frac{-3}{8} \times \frac{-7}{13}$



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60. Divide: $\frac{3}{5} by \frac{4}{25}$ (ii) $\frac{8}{9} by \frac{4}{3}$



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61. Divide: $\frac{-16}{21}$ by $\frac{4}{3}$ (ii) $\frac{-8}{13}$ by $\frac{3}{-26}$



62. The product of two rational numbers is -28

 $\frac{-28}{81}$. If one of the numbers is $\frac{14}{27}$, find the other.



63. By what number should we multiply $\frac{3}{-14}$, so that the product may be $\frac{5}{12}$.



64. Divide: 1 by
$$\frac{1}{2}$$
 (ii) $5 \ by \frac{-5}{7}$



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65. Divide:
$$\frac{-3}{4} by \frac{9}{-16}$$
 (ii) $\frac{-7}{8} by \frac{-21}{16}$





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66. Divide: $\frac{7}{-4} by \frac{63}{64}$ (ii) $0 by \frac{-7}{5}$

67. Divide:
$$\frac{-3}{4} by - 6$$
 (ii) $\frac{2}{3} by \frac{-7}{12}$



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68. Find the value and express as a rational number in standard form: $\frac{2}{5} \div \frac{26}{15}$ (ii) $\frac{10}{3} \div \frac{-35}{12}$



69. Find the value and express as a rational number in standard form: $-6 \div \left(\frac{-8}{17}\right)$ (ii) $\frac{40}{98} \div (-20)$



70. The product of two rational number is 15. If one of the numbers is 10, find the other.



71. 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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72. By what number should we multiply $\frac{-1}{\epsilon}$ so that the product may be $\frac{-23}{\alpha}$?



73. By what number should we multiply $\frac{-15}{28}$ so that the product may be $\frac{-5}{7}$?

74. By what number should we multiply $\frac{-8}{13}$ so



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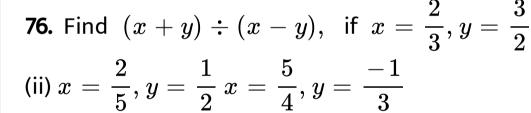
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that the product may be 24?

75. By what number should $\frac{-3}{4}$ be multiplied in order to produce $\frac{2}{3}$?



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77. The cost of $7\frac{2}{3}$ metres of rope is Rs $12\frac{3}{4}$. Find its cost per metre.

78. The cost of $2\frac{1}{3}$ metres of cloth is Rs. $75\frac{1}{4}$.



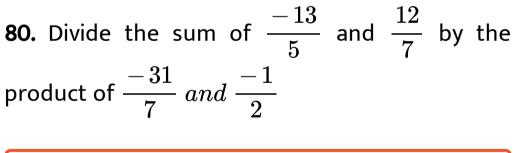
Find the cost of cloth per metre.



79. By what number should $\frac{-33}{16}$ be divided to get $\frac{-11}{4}$?



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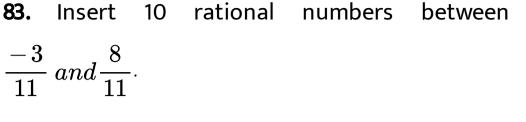


81. Divide the sum of $\frac{65}{12}$ and $\frac{8}{3}$ by their difference.



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





84. Insert 100 rational numbers between



 $\frac{-3}{13}$ and $\frac{9}{13}$



85. Find six rational numbers between
$$\frac{-4}{8}$$
 and $\frac{3}{8}$

86. Find 10 rational numbers between





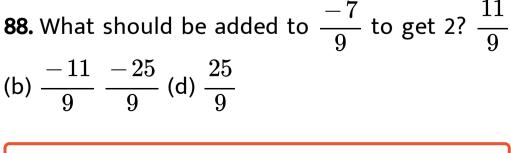
 $\frac{7}{13}$ and $\frac{-4}{13}$

integers there is always an integer. Between any two distinct rational numbers there is always a rational number. Between any two distinct

rational numbers there are infinitely many

87. State true or false: Between any two distinct

rational numbers.





89. What should be subtracted from
$$\frac{-2}{3}$$
 to get $\frac{4}{5}$? $\frac{22}{15}$ (b) $\frac{-22}{15}$ $\frac{15}{22}$ (d) $\frac{-15}{22}$

90. Reciprocal of $\frac{-3}{4}$ is (a) $\frac{3}{4}$ (b) $\frac{4}{3}$ (c) $\frac{-4}{3}$ (d)



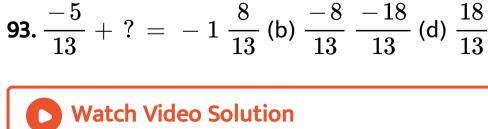


None of these

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

91. The multiplicative inverse of $\frac{4}{-5}$ is $-\frac{4}{5}$ (b)

92.
$$1 \div \frac{-5}{7} = \frac{2}{7}$$
 (b) $\frac{5}{7} - \frac{2}{7}$ (d) $\frac{-7}{5}$ Watch Video Solution



94.
$$0 \div \frac{3}{5} = 0$$
 (b) $\frac{5}{3} \cdot \frac{3}{5}$ (d) $-\frac{3}{5}$



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96. If the product of two non-zero rational numbers is 1, then they are (a)Additive inverse of each other (b)Multiplicative inverse of each

95. $-2\frac{3}{7}+4=$? $\frac{-11}{7}$ (b) $\frac{11}{7}$ $\frac{-45}{7}$ (d) $\frac{45}{7}$

97. The product $3rac{1}{7} imes1rac{5}{6} imes1rac{2}{5} imes1rac{1}{11}$ is equal

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and (c)

other (c)Reciprocal of each other (d) Both (b)

to $5\frac{8}{5}$ (b) $5\frac{4}{5}$. $8\frac{4}{5}$ (d) $4\frac{4}{5}$



98. $1 \div \frac{1}{3} = \frac{1}{3}$ (b) $3 1 \frac{1}{3}$ (d) $3 \frac{1}{3}$

100. If $\frac{x}{2} + \frac{1}{3} = 1$, then $x = \frac{3}{4}$ (b) $\frac{4}{3} - \frac{3}{4}$ (d)

99. $(-2) \div \left(-\frac{5}{3}\right) = \frac{5}{6}$ (b) $-\frac{5}{6} \frac{6}{5}$ (d) $\frac{-6}{5}$

101.
$$\frac{5}{4} - \frac{7}{6} - \frac{-2}{3} = \frac{3}{4}$$
 (b) $-\frac{3}{4} \frac{-7}{12}$ (d) $\frac{7}{12}$

