Mathematics for Class 8

1. Rational Numbers

Q 1 Find the reciprocal of -2.

Mark (1)

Q 2 The sum of two numbers is $\frac{5}{9}$. If one of the numbers is $\frac{1}{3}$, find the other.

Mark (1)

Q 3 Write the additive inverse of $\frac{2}{3}$ and show that their sum is zero.

Mark (1)

Q 4 Simplify $\frac{7}{6} \times \frac{-3}{28}$ and find its reciprocal.

Mark (1)

Q 5 The product of two rational numbers is 15. If one of the numbers is –10, find the other.

Mark (1)

Q 6 Write any three rational numbers between –5 and 0.

Mark (1)

Q 7 True of False: 1 is the only rational number that is equal to its reciprocal.

Mark (1)

Q 8 Simplify: $\frac{-4}{13} - \frac{-3}{26}$

Marks (2)

Q 9 Verify $\frac{-2}{5} + \left[\frac{3}{5} + \frac{1}{2}\right] = \left[\frac{-2}{5} + \frac{3}{5}\right] + \frac{1}{2}$.

Marks (2)

Q 10 Verify: $\frac{1}{2} \div \left[\frac{-1}{3} \div \frac{2}{5}\right] \neq \left[\frac{1}{2} \div \frac{-1}{3}\right] \div \frac{2}{5}$.

Marks (2)

Q 11 Verify the associative property of multiplication in $\frac{-7}{3}\times\left(\frac{5}{4}\times\frac{2}{9}\right)=\left(\frac{-7}{3}\times\frac{5}{4}\right)\times\frac{2}{9}$.

Marks (2)

Q 12 Find $\frac{3}{7}+\frac{6}{11}+\left(\frac{-8}{21}\right)$

Marks (2)

Q 13 Simplify: $\left[\frac{1}{2}\div\left(\frac{-1}{2}\right)\right]\div\frac{2}{5}$

Marks (2)

Q 14 Find a rational number between $\frac{1}{4}$ and $\frac{1}{2}$.

Marks (2)

Q 15 Find two rational numbers between –2 and 0.

Marks (2)

Q 16 Find $\frac{-6}{5}\times\frac{3}{8}\times\frac{15}{24}\times\left(\frac{-16}{9}\right)$

Marks (2)

Q 17 By what number should $\frac{3}{-14}$ be multiplied so as to get $\frac{5}{12}$.

Marks (2)

Q 18 Represent -7/4 on the number line.

Marks (2)

Q 19 Divide $\frac{1}{2}$ by $\left[\frac{-1}{3}+\frac{2}{5}\right]$

Marks (2)

Q 20 Multiply $\frac{-7}{3} \times \left(\frac{-5}{4} \times \frac{2}{9} \right)$

Marks (2)

Q 21 Find $\frac{-2}{3} - \left[\frac{-4}{5} - \frac{1}{2} \right]$

Marks (2)

Q 22 Using appropriate properties, find $\frac{-2}{3} \times \frac{3}{5} + \frac{5}{2} - \frac{3}{5} \times \frac{1}{6}$

Marks (3)

Q 23 Find three rational numbers between $-\frac{5}{6}$ and $-\frac{5}{8}$.

Marks (3)

Q 24 By what number should $\frac{-33}{8}$ be divided to get $\frac{-11}{2}$?

Marks (3)

Q 25 Using the distributive property, find $\frac{-3}{4} \times \frac{2}{3} + \left(\frac{-3}{4} \times \frac{-5}{6} \right)$.

Marks (3)

Q 26 What should be subtracted from $\frac{-2}{3}$ to get $\frac{5}{6}$?

Marks (3)

Q 27 Find the sum of $\frac{3}{7} + \left(\frac{-6}{11} \right) + \left(\frac{-8}{21} \right) + \frac{5}{22}$.

Marks (3)

Q 28 **Find two rational numbers between $\frac{1}{4}$ and $\frac{1}{2}$.**

Marks (4)

Q 29 Find three rational numbers between $\frac{2}{3}$ and $\frac{4}{5}$.

Marks (4)

Q 30 **Find two rational numbers between $\frac{1}{4}$ and $\frac{1}{2}$.**

Marks (4)

Q 31 **Find three rational number between $\frac{3}{5}$ and $\frac{3}{4}$.**

Marks (4)

Q 32 **Find three rational number between $\frac{3}{5}$ and $\frac{3}{4}$.**

Marks (4)

Most Important Questions

Q 1 Using appropriate properties of rational numbers, find the sum

$$\frac{3}{4}+\frac{4}{21}+\frac{7}{8}+\frac{5}{7}$$

Q 2 Using appropriate properties of rational numbers, find

$$-\frac{5}{12}\times\frac{3}{16}-\frac{3}{8}+\frac{7}{8}\times\frac{5}{7}$$

Q 3 What is additive identity of rational number?

Q 4 Find the additive inverse of (i) $\frac{4}{21}$ (ii) $-\frac{7}{11}$ (iii) $\frac{9}{-2}$ (iv) $2\frac{3}{7}$

Q 5 What is multiplicative identity of rational number?

Q 6 Find the multiplicative inverse of

(i) $\frac{3}{11}$ (ii) $-\frac{2}{7}$ (iii) $\frac{-9}{-2}$ (iv) $1\frac{8}{9}$

Q 7 Add $\frac{4}{13}$ with the multiplicative inverse of $5\frac{1}{5}$.

Q 8 Add $-\frac{2}{5}\times\frac{15}{4}$ by the reciprocal of $\frac{4}{13}\times\frac{-39}{5}$.

Q 9 Is 0.15 is the multiplicative inverse of $-6\frac{2}{3}$?

Q 10 Add the multiplicative inverses of 3/8 and 7/12.

Q 11 Multiply the additive inverses of $\frac{3}{8}$ and $\frac{7}{12}$.

Q 12 Verify $-(-x) = x$ for $x=\frac{7}{12}$.

Q 13 For $a=\frac{2}{3}, b=-\frac{5}{6}$ and $c=\frac{1}{2}$, prove that $a\times(b+c)=a\times b+a\times c$.

Q 14 Using appropriate properties of rational numbers, find $\left[\frac{7}{11}+\left(\frac{5}{7}+\frac{3}{22}\right)\right]$.

Q 15 Find $\left[-\frac{2}{5}\times\left(\frac{5}{3}\times\frac{15}{22}\right)\right]$.

Q 16 Represent the rational number 12/5 on the number line.

Q 17 Represent the rational number 13/6 on the number line.

Q 18 Represent the rational numbers 2/9, 5/9, 8/9 on a number line.

Q 19 Find two rational numbers between 0 and 7/9.

Q 20 Find five rational numbers between 3/5 and 2/3.

Q 21 Find four rational numbers between 7/9 and 1/3.

Q 22 Find ten rational numbers between – 1/10 and – 2/5.

Q 23 Find five rational numbers less than – 3.

Q 24 Find ten rational numbers greater than 4.