

# Mathematics for Class 8

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## 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 or 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)

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

Q 28

Marks (4)

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

Marks (4)

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

Q 30

Marks (4)

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

Q 31

Marks (4)

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

Q 32

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  $\frac{3}{8}$  and  $\frac{7}{12}$ .

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  $\frac{12}{5}$  on the number line.

Q 17 Represent the rational number  $\frac{13}{6}$  on the number line.

Q 18 Represent the rational numbers  $\frac{2}{9}$ ,  $\frac{5}{9}$ ,  $\frac{8}{9}$  on a number line.

Q 19 Find two rational numbers between 0 and  $\frac{7}{9}$ .

Q 20 Find five rational numbers between  $\frac{3}{5}$  and  $\frac{2}{3}$ .

Q 21 Find four rational numbers between  $\frac{7}{9}$  and  $\frac{1}{3}$ .

Q 22 Find ten rational numbers between  $-\frac{1}{10}$  and  $-\frac{2}{5}$ .

Q 23 Find five rational numbers less than  $-3$ .

Q 24 Find ten rational numbers greater than  $4$ .