Question Bank

1. CHOOSE THE CORRECT ANSWER.

a. For rational numbers a, b, and c, $a + (b + c) = (a + b) + c$. This is known as:

i. closure property

ii. associative property

iii. commutative property

iv. zero property

b. For rational numbers a, b, and c, $a \times b = b \times a$. This is known as:

i. closure property

ii. associative property

iii. commutative property

iv. zero property

c. Given that $67 \div a = 1$, what is the value of a?

i. 1 ii. 67 iii. 0 iv. –67

d. The multiplicative identity of rational numbers is:

i. 1 ii. 0 iii. –1 iv. not defined

e. Identity element of addition of rational numbers is:

i. 1 ii. 0 iii. –1 iv. not defined

2. ANSWER THE FOLLOWING.

a. Verify that $a + b = b + a$ with the following values:

i. $a = \frac{1}{5}, b = \frac{2}{7}$ ii. $a = \frac{2}{9}, b = \frac{-3}{8}$

b. Verify that $a + (b + c) = (a + b) + c$ with the following values:

i. $a = \frac{4}{15}, b = \frac{1}{5}, c = \frac{5}{3}$

ii. $a = \frac{2}{10}, b = \frac{3}{5}, c = \frac{-1}{2}$

c. Verify that $a \times (b + c) = a \times b + a \times c$ with the following values:

i. $a = \frac{1}{2}, b = \frac{2}{6}, c = \frac{3}{12}$

ii. $a = \frac{-1}{3}, b = \frac{4}{5}, c = \frac{6}{10}$

d. Simplify: $\frac{-33}{7} \times \frac{10}{24} \times \frac{14}{11} \times \frac{72}{15}$

e. I have a 50 cm long ribbon. If I cut it into 5 equal parts, and again cut each piece into 4 equal parts, what will be the length of each piece in cm? Express the answer as a simplified fraction.

f. Find five rational numbers between:

i. 3 and 4 ii. $\frac{-3}{7}$ and $\frac{5}{7}$

g. Find 10 rational numbers between $\frac{1}{2}$ and $\frac{3}{2}$.

h. Find 50 rational numbers between $\frac{1}{12}$ and $\frac{7}{12}$.