CLASS 8 MATHEMATICS – Extra Questions for Practice

RATIONAL NUMBERS – Chapter 1

1. Find $\frac{-2}{5} \times \frac{3}{7} + \frac{-2}{5} \times \frac{3}{14}$.

2. Find $\frac{-3}{7} \times \frac{4}{5} \times \frac{2}{3} \times \frac{-8}{9}$.

3. Write the additive inverse of the following:

i) $\frac{-8}{9}$

ii) $\frac{21}{22}$

iii) $\frac{-32}{-35}$

4. Write any three rational numbers between -2 and 2.

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

6. Find three rational numbers between $\frac{1}{3}$ and $\frac{1}{5}$.

7. Find the multiplicative inverse of

i) -15

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

8. Name the property in each of the following:

i) $\frac{-2}{3} + \frac{5}{7} = \frac{5}{7} + \frac{-2}{3}$

ii) $\frac{-7}{3} \times \frac{5}{6} = \frac{5}{6} \times \frac{-7}{3}$

iii) $\frac{-2}{3} + \left(\frac{3}{5} + \frac{-5}{6} \right) = \left(\frac{-2}{3} + \frac{3}{5} \right) + \frac{-5}{6}$

9. Multiply $\frac{7}{13}$ by the reciprocal of $\frac{-2}{7}$.

10. Tell what property allows you to compute

$\frac{-2}{5} \times (\frac{2}{3} + \frac{4}{5})$ as $\frac{-2}{5} \times \frac{2}{3} + \frac{-2}{5} \times \frac{4}{5}$.

ANSWERS:

1. $\frac{-2}{5} \times \frac{3}{7} + \frac{-2}{5} \times \frac{3}{14} = \frac{-2}{5} \times (\frac{3}{7} + \frac{3}{14})$ (By distributive property)

$= \frac{-2}{5} \times (\frac{3 \times 2}{7 \times 2} + \frac{3}{14})$

$= \frac{-2}{5} \times (\frac{6}{14} + \frac{3}{14})$

$= \frac{-2}{5} \times \frac{9}{14}$

$= \frac{-18}{70}$.

2. $\frac{-3}{7} \times \frac{4}{5} \times \frac{2}{3} \times \frac{-8}{9} = \frac{-3 \times 4 \times 2 \times -8}{7 \times 5 \times 3 \times 9} = \frac{192}{945}$.

3. i) $\frac{8}{9}$

ii) $\frac{-21}{22}$

4. -1, 0, 1

5. First convert to like fractions

$\frac{1}{4} = \frac{1 \times 2}{4 \times 2} = \frac{2}{8}$

$\frac{1}{2} = \frac{1 \times 4}{2 \times 4} = \frac{4}{8}$

So a rational number between $\frac{1}{4}$ and $\frac{1}{2}$ is $\frac{3}{8}$.

6. First we need to convert to like fractions.

$\frac{1}{3} = \frac{1 \times 10}{3 \times 10} = \frac{10}{30}$

$\frac{1}{5} = \frac{1 \times 6}{5 \times 6} = \frac{6}{30}$

So the three rational numbers between $\frac{1}{3}$ and $\frac{1}{5}$ are $\frac{7}{30}, \frac{8}{30}, \frac{9}{30}$.

7. i) $\frac{-1}{15}$

ii) $\dfrac{-5}{2}$

8. i) Commutativity of addition

ii) Commutativity of multiplication

iii) Associativity of addition.

9. Reciprocal of $\dfrac{-2}{7}$ is $\dfrac{-7}{2}$.

$\dfrac{7}{13} \times \dfrac{-7}{2} = \dfrac{-49}{26}$.

10. Distributive property of multiplication over addition.