



Class 9 Maths – Chapter 3



Exercise Set 3.3 – The World of Numbers

Based on the new **Ganita Manjari Grade 9 Part I textbook**. Exercise Set 3.3 is on page 49.

Q1. Prove that the following rational numbers are equal.

(i) $\frac{2}{3}$ and $\frac{4}{6}$

$$\frac{2}{3} = \frac{(2 \times 2)}{(3 \times 2)}$$

$$= \frac{4}{6}$$

✓ Answer: $\frac{2}{3} = \frac{4}{6}$

(ii) $\frac{5}{4}$ and $\frac{10}{8}$

$$\frac{5}{4} = \frac{(5 \times 2)}{(4 \times 2)}$$

$$= \frac{10}{8}$$

✓ Answer: $\frac{5}{4} = \frac{10}{8}$

(iii) $-\frac{3}{5}$ and $-\frac{6}{10}$

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

$$= -\frac{6}{10}$$

✓ Answer: $-\frac{3}{5} = -\frac{6}{10}$

(iv) $\frac{9}{3}$ and 3

$$\frac{9}{3} = 3$$

✓ Answer: $9/3 = 3$

● **Q2. Find the sum.**

(i) $2/5 + 3/10$

LCM of 5 and 10 = 10

$$= 4/10 + 3/10$$

$$= 7/10$$

✓ Answer: **$7/10$**

(ii) $7/12 + 5/8$

LCM of 12 and 8 = 24

$$= 14/24 + 15/24$$

$$= 29/24$$

✓ Answer: **$29/24$ or $1 \frac{5}{24}$**

(iii) $-4/7 + 3/14$

LCM of 7 and 14 = 14

$$= -8/14 + 3/14$$

$$= -5/14$$

✓ Answer: **$-5/14$**

● **Q3. Find the difference.**

(i) $5/6 - 1/4$

LCM of 6 and 4 = 12

$$= 10/12 - 3/12$$

$$= 7/12$$

✓ Answer: **7/12**

(ii) $11/8 - 3/4$

$$= 11/8 - 6/8$$

$$= 5/8$$

✓ Answer: **5/8**

(iii) $-7/9 - (-2/3)$

Subtracting a negative means adding:

$$= -7/9 + 2/3$$

$$= -7/9 + 6/9$$

$$= -1/9$$

✓ Answer: **-1/9**

● Q4. Find the product.

(i) $2/3 \times 3/10$

$$= 6/30$$

$$= 1/5$$

✓ Answer: **1/5**

(ii) $7/11 \times 5/8$

$$= 35/88$$

✓ Answer: **35/88**

(iii) $-4/7 \times 5/14$

$$= -20/98$$

$$= -10/49$$

✓ Answer: **-10/49**

● **Q5. Find the quotient.**

(i) $2/3 \div 3/10$

Change division into multiplication by the reciprocal:

$$= 2/3 \times 10/3$$

$$= 20/9$$

✓ Answer: **20/9** or **2 2/9**

(ii) $7/11 \div 5/8$

$$= 7/11 \times 8/5$$

$$= 56/55$$

$$= 1 \frac{1}{55}$$

✓ Answer: **56/55** or **1 1/55**

QUICK ANSWER KEY

1.

(i) $2/3 = 4/6$

(ii) $5/4 = 10/8$

(iii) $-\frac{3}{5} = -\frac{6}{10}$

(iv) $\frac{9}{3} = 3$

2.

(i) $\frac{7}{10}$

(ii) $\frac{29}{24}$

(iii) $-\frac{5}{14}$

3.

(i) $\frac{7}{12}$

(ii) $\frac{5}{8}$

(iii) $-\frac{1}{9}$

4.

(i) $\frac{1}{5}$

(ii) $\frac{35}{88}$

(iii) $-\frac{10}{49}$

5.

(i) $\frac{20}{9}$

(ii) $\frac{56}{55}$

The textbook exercise contains **5 questions**, covering equality of rational numbers, addition, subtraction, multiplication and division of rational numbers.