



Exercise 1F

Q5

**Answer :**

Rational number between 4 and 5 :

$$\begin{aligned} & \frac{1}{2} (4 + 5) \\ &= \frac{9}{2} \end{aligned}$$

Rational number between 4 and  $\frac{9}{2}$  :

$$\begin{aligned} & \frac{1}{2} \left( 4 + \frac{9}{2} \right) \\ &= \frac{1}{2} \left( \frac{8+9}{2} \right) \\ &= \frac{1}{2} \left( \frac{17}{2} \right) \\ &= \frac{17}{4} \end{aligned}$$

Rational number between  $\frac{9}{2}$  and 5 :

$$\begin{aligned} & \frac{1}{2} \left( \frac{9}{2} + 5 \right) \\ &= \frac{1}{2} \left( \frac{9+10}{2} \right) \\ &= \frac{19}{4} \end{aligned}$$

We know :

$$4 < \frac{17}{4} < \frac{9}{2} < \frac{19}{4} < 5$$

Q6

**Answer :**

Rational number between  $\frac{2}{3}$  and  $\frac{3}{4}$  :

$$\frac{1}{2} \left( \frac{2}{3} + \frac{3}{4} \right)$$

$$= \frac{1}{2} \left( \frac{8+9}{12} \right)$$

$$= \frac{17}{24}$$

We know :

$$\frac{2}{3} < \frac{17}{24} < \frac{3}{4}$$

Rational number between  $\frac{2}{3}$  and  $\frac{17}{24}$  :

$$\frac{1}{2} \left( \frac{2}{3} + \frac{17}{24} \right)$$

$$= \frac{1}{2} \left( \frac{16+17}{24} \right)$$

$$= \frac{1}{2} \left( \frac{33}{24} \right)$$

$$= \frac{33}{48} = \frac{33 \div 3}{48 \div 3} = \frac{11}{16}$$

Rational number between  $\frac{17}{24}$  and  $\frac{3}{4}$  :

$$\frac{1}{2} \left( \frac{17}{24} + \frac{3}{4} \right)$$

$$= \frac{1}{2} \left( \frac{17+18}{24} \right)$$

$$= \frac{1}{2} \left( \frac{35}{24} \right)$$

$$= \frac{35}{48}$$

We know :

$$\frac{2}{3} < \frac{11}{16} < \frac{17}{24} < \frac{35}{48} < \frac{3}{4}$$

Thus, the three rational numbers are  $\frac{11}{16}$ ,  $\frac{17}{24}$  and  $\frac{35}{48}$ .

Q7

**Answer :**

We may write :

$$-1 = \frac{-10}{10}$$

and

$$2 = \frac{20}{10}$$

Rational numbers between  $-1$  and  $2$  :

$$\frac{-9}{10}, \frac{-8}{10}, \frac{-7}{10}, \frac{-6}{10}, \frac{-5}{10}, \frac{-4}{10}, \dots, \frac{14}{10}, \frac{15}{10}, \frac{16}{10}, \frac{17}{10}, \frac{18}{10} \text{ and } \frac{19}{10}$$

We can take any 12 numbers out of these.

\*\*\*\*\* END \*\*\*\*\*