

1. Write four more numbers in the following pattern

a. $-\frac{1}{3}, -\frac{2}{6}, -\frac{3}{9}, -\frac{4}{12}, \dots$

Solution:-

$$-\frac{1}{3} \times \frac{1}{1} = -\frac{1}{3}$$

$$-\frac{1}{3} \times \frac{2}{2} = -\frac{2}{6}$$

$$-\frac{1}{3} \times \frac{3}{3} = -\frac{3}{9}$$

$$-\frac{1}{3} \times \frac{4}{4} = -\frac{4}{12}$$

The other numbers are, $-\frac{1}{3}, -\frac{2}{6}, -\frac{3}{9}, -\frac{4}{12}$.

(b) Write four more rational numbers in the following pattern $-\frac{1}{4}, -\frac{2}{8}, -\frac{3}{12}, \dots$

2. Equivalent rational numbers:-

By multiplying the numerator and denominator of a rational number by the same non-zero integer, we obtain another rational number equivalent to the given rational number. This is called Equivalent rational number

a. Give four rational numbers equivalent to:-

$$-\frac{2}{3}$$

Solution:- $-\frac{2}{3} \times \frac{2}{2} = -\frac{4}{6}$

$$-\frac{2}{3} \times \frac{3}{3} = -\frac{6}{9}$$

②

(b) Give four rational numbers equivalent to:

$$-\frac{2}{7}$$

3. Rewrite the following rational numbers in the simplest form.

$$\frac{25}{45}$$

* (a) Do $\frac{4}{-9}$ and $\frac{-16}{36}$ represent the same rational number?

Solution

$$\frac{4}{-9} = \frac{4 \times (-4)}{-9 \times (-4)} = \frac{-16}{36}$$

$$\frac{-16}{36} = \frac{-16 \div -4}{36 \div -4} = \frac{4}{-9} \quad \text{Yes, same rational number}$$

(b) Do $\frac{-16}{20}$ and $\frac{20}{25}$ represent the same rational number?

5. Which is greater $-\frac{2}{3}$ or $5\frac{1}{2}$

6. Write the following rational numbers in ascending order $-\frac{3}{5}, \frac{2}{5}, \frac{-1}{5}$

RATIONAL NUMBERS

1. Find $\frac{-13}{7} + \frac{6}{7}$.

Solution:-

$$\frac{-13}{7} + \frac{6}{7} = \frac{-13+6}{7}$$

$$= \frac{-7}{7}$$

$$= -1$$

2. (b) Find $\frac{5}{4} + \left(\frac{-11}{4}\right)$.

1. (a) Find $\frac{5}{7} - \frac{3}{8}$.

Solution:-

$$\frac{5}{7} - \frac{3}{8} = \frac{40-21}{56}$$

$$= \frac{19}{56}$$

(b) Find (i) $\frac{7}{24} - \frac{17}{36}$ (ii) $\frac{-6}{13} - \left(\frac{-7}{15}\right)$.

3. Find the Product of $\frac{-3}{5} \times \frac{2}{7}$.

Solution:-

$$\frac{-3}{5} \times \frac{2}{7} = \frac{-6}{35}$$

(b) Find the product of $\frac{-6}{5} \times \frac{9}{11}$ (b) $\frac{3}{11} \times \frac{2}{5}$.

(A)

4. Find the value of $-4 \div \frac{2}{3}$.

Solution:-

$$= -4 \times \text{reciprocal of } \left(\frac{2}{3}\right)$$
$$= \frac{-4}{1} \times \frac{3}{2}$$
$$= \frac{-12}{2} \text{ (or) } -6$$

(b) Find the value of $-\frac{1}{8} \div \frac{3}{4}$.

(c) Find the value of $(-4) \div \frac{2}{3}$.