

Worksheet
CH-2
Rational number

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Q1 A rational number is defined as a number that can be expressed in the form p/q , where p and q are integers and

(a) $q = 0$

(b) $q = 1$

(c) $q \neq 1$

☒ (d) $q \neq 0$

Q2 In the standard form of a rational number the common factor of numerator and denominator is always

(a) 0 ☒ (b) 1 (c) -2 (d) 2

Q3 The standard form of $-\frac{48}{60}$ is

☒ (a) $\frac{48}{60}$

(b) $-\frac{60}{48}$

☒ (c) $-\frac{4}{5}$

(d) $-\frac{4}{5}$

Q4 Which of the following is equivalent to $\frac{4}{5}$?

(a) $\frac{5}{9}$

(b) $\frac{16}{25}$

☒ (c) $\frac{16}{20}$

(d) $\frac{15}{25}$

Q5 How many rational number are there between two rational numbers?

(a) 1

(b) 0

☒ (c) unlimited

(d) 1

Q6 In the standard form of a rational number, The denominator is always a

(a) 0

(b) negative integer

☒ (c) positive integer

(d) 1

Q7 $\frac{-3}{8}$ is a rational number integer.

Ans: Yes $\frac{-3}{8}$ is a rational number integer

Q8 on a number line, $\frac{3}{4}$ is to the right side of zero ☒ (b)

Q9 on $\frac{-1}{2}$ is less than $\frac{1}{5}$

In question 10 to 15, fill in the boxes with the correct symbol '<', '>' or '='.

$$(10) \frac{7}{-8} \boxed{<} \frac{8}{9}$$

$$(11) \frac{3}{7} \boxed{>} \frac{-5}{6}$$

$$(12) \frac{5}{6} \boxed{>} \frac{4}{8}$$

$$(13) \frac{-9}{7} \boxed{<} \frac{1}{7}$$

$$(14) \frac{8}{8} \boxed{=} \frac{2}{2}$$

(15) The reciprocal of _____ does not exist.

(16) By what number should we multiply $-\frac{3}{8}$,
(so that the product is $-\frac{9}{16}$)

$$\begin{aligned} \text{Ans} \rightarrow & \frac{-3}{8} \div \frac{-9}{16} \\ & = \frac{-3}{8} \times \frac{16}{-9} = \frac{-2}{3} \end{aligned}$$

So $\frac{2}{3}$ number should we multiply ~~$-\frac{3}{8}$~~ $\frac{3}{8}$

to get $-\frac{9}{16}$

Q7 The cost of $4\frac{1}{2}$ meters of cloth is Rs $85\frac{1}{2}$

Find the cost of one meter cloth.

Ans The cost of $4\frac{1}{2}$ meters of cloth is Rs

$$= \text{Rs } 85\frac{1}{2}$$

$$\text{The cost of one meter cloth} = 4\frac{1}{2} \div 85\frac{1}{2}$$

$$= \frac{9}{2} \times \frac{171}{19}$$

$$= \frac{1}{19}$$

$$\therefore \text{The cost of one meter cloth} = \frac{1}{19}$$

Q18 A stairway consists of 14 stairs, each

$32\frac{5}{7}$ high. What is the vertical height

of stairways?

Ans ~~The~~ A stairway consists ^{of} 14

$$\text{each} = 32\frac{5}{7} \text{ high} = \frac{229}{7}$$

The vertical height of the stairways

$$= 14 \times \frac{229}{7} = 458 \text{ cm}$$

$\therefore$ The vertical height of the stairways
= 458 cm

Q19 Arrange the rational number $-\frac{7}{10}$, $\frac{5}{-8}$, $\frac{2}{-3}$ in the ascending order.

$$\text{Ans } \frac{-7}{10} = \frac{-7 \times 12}{10 \times 12} = \frac{-84}{120}$$

$$\frac{5}{-8} = \frac{5 \times 15}{8 \times 15} = \frac{-75}{120}$$

$$\frac{2}{-3} = \frac{2 \times 40}{3 \times 40} = \frac{-80}{120}$$

$$= \frac{-84}{120} < \frac{-80}{120} < \frac{-75}{120}$$

$$= \frac{-7}{10} < \frac{2}{-3} < \frac{5}{-8}$$

Q20 The sum of two rational number is -5 . If one of them is $-\frac{52}{25}$, find the other.

Sum of two numbers $= -5$

$$\text{One number} = -\frac{52}{25}$$

$$\text{Second number} = -5 - \left(-\frac{52}{25} \right)$$

$$= \frac{-5 \times 25}{1 \times 25} + \frac{52 \times 1}{25 \times 1}$$

$$= \frac{-125 + 52}{25} = -\frac{77}{25}$$

$$\text{So other number} = -\frac{77}{25}$$