

Test-5

- 1) A number which can be expressed as $\frac{p}{q}$, where p and q are integers and $q \neq 0$ is (a) natural numbers (b) whole numbers (c) integer (d) rational number.
- 2) A number of the form $\frac{p}{q}$ is said to be a rational number if (a) p, q are integers (b) p, q are integers and $p \neq 0$ (c) p, q are integers and $p \neq 0, q \neq 0$ (d) p, q are integers and $q \neq 0$.
- 3) The numerical expression $\frac{3}{8} + \left(\frac{-5}{7}\right) = \frac{-19}{56}$ shows that (a) rational numbers are not closed under addition (b) rational numbers are closed under addition (c) rational numbers are closed under multiplication (d) addition of rational numbers are not commutative.
- 4) Which of the following is not true?
(a) rational numbers are closed under addition (b) rational numbers are closed under subtraction (c) rational numbers are closed under multiplication (d) rational numbers are closed under division.
- 5) Zero (0) is (a) identity for addition of rational numbers (b) the identity for subtraction of rational numbers (c) the identity for multiplication of rational numbers (d) the identity for division of rational numbers.
- 6) One (1) is (a) the identity for addition of rational numbers (b) the identity for subtraction of rational numbers (c) the identity for multiplication of rational numbers (d) the identity for division of rational numbers.
- 7) The additive inverse of $-\frac{7}{19}$ is (a) $-\frac{7}{19}$ (b) $\frac{7}{19}$ (c) $\frac{19}{7}$ (d) $-\frac{19}{7}$
- 8) Multiplicative inverse of a negative rational number is (a) a positive rational number (b) a negative rational number (c) 0 (d) 1
- 9) If $x+0 = 0+x = x$, which is a rational number, then 0 is called (a) identity for addition of rational numbers (b) additive inverse of x (c) multiplicative inverse of x (d) reciprocal of x .

10) To get the product 1, we should multiply $(\frac{8}{21})$ by
(a) $\frac{8}{21}$ (b) $-\frac{8}{21}$ (c) $\frac{21}{8}$ (d) $-\frac{21}{8}$

11) $-(-x)$ is same as (a) $-x$ (b) x (c) $\frac{1}{x}$ (d) $-\frac{1}{x}$

12) The multiplicative inverse of $-1\frac{1}{7}$ is (a) $\frac{8}{7}$ (b) $-\frac{8}{7}$ (c) $\frac{7}{8}$ (d) $\frac{7}{-8}$

13) If x be any rational number, then $x+0$ is equal to (a) x (b) 0 (c) $-x$ (d) not defined.

14) The reciprocal of 1 is (a) 1 (b) -1 (c) 0 (d) not defined.

15) The reciprocal of -1 is (a) 1 (b) -1 (c) 0 (d) not defined.

16) The reciprocal of 0 is (a) 1 (b) -1 (c) 0 (d) not defined

17) The reciprocal of any rational number $\frac{p}{q}$; where p and q are integers and $q \neq 0$ is (a) $\frac{p}{q}$ (b) 1 (c) 0 (d) $\frac{q}{p}$.

18) If y is be the reciprocal of rational number x , then the reciprocal of y will be (a) x (b) y (c) x/y (d) y/x

19) The reciprocal of $-\frac{3}{8}x - \frac{7}{13}$ is (a) $\frac{104}{21}$ (b) $-\frac{104}{21}$ (c) $\frac{21}{104}$ (d) $-\frac{21}{104}$

20) Between two given rational numbers, we can find
(a) one and only one rational number (b) only two rational numbers
(c) only ten rational numbers (d) infinitely many rational numbers.

21) $\frac{x+y}{2}$ is a rational number (a) between x and y
(b) less than x and y both (c) greater than x and y both
(d) less than x but greater than y .

22) Which of the following statements is always true?

(a) $\frac{x-y}{2}$ is a rational number between x and y

(b) $\frac{x+y}{2}$ is a rational number between x and y .

(c) $\frac{x \times y}{2}$ is a rational number between x and y .

(d) $\frac{x \div y}{2}$ is a rational number between x and y .

23) The equivalent of $5/7$, whose numerator is 45 is —

24) The numbers — and — are their own reciprocal

25) Zero has — reciprocal.

VIII Test-5 (Solutions)

- 1) rational numbers (d)
- 2) p, q are integers and $q \neq 0$ (d)
- 3) rational numbers are closed under addition (b)
- 4) rational numbers are closed under division (d)
- 5) identity for addition of rational numbers (a)
- 6) the identity for multiplication of rational numbers (c)
- 7) $\frac{7}{19}$ (b)

- 8) a negative rational number (b)
- 9) identity for addition of rational numbers (a)
- 10) $\frac{21}{8}$ (c)

11) x (b)

12) $-1\frac{1}{7} = -\frac{8}{7}$

multiplicative inverse of $-\frac{8}{7}$ is $-\frac{7}{8}$ (d)

13) x (a)

14) 1 (a)

15) -1 (b)

16) not defined (d)

17) $\frac{q}{p}$ (d)

18) x (a)

19) $-\frac{3}{8} \times -\frac{7}{13} = \frac{21}{104}$

reciprocal is $\frac{104}{21}$ (a)

20) infinitely many rational numbers (d)

21) between x and y (a)

22) $x+y$ is a rational number between x and y (b)

23) $\frac{5 \times 9}{7 \times 9} = \frac{45}{63} = \underline{\underline{\frac{5}{7}}}$

24) 1 and -1

25) no