Rational Numbers

Question 1.
Which of the following forms a pair of equivalent rational numbers?
(a) $\frac{24}{40}$ and $\frac{35}{50}$
(b) $\frac{-25}{35}$ and $\frac{55}{-77}$
(c) $\frac{-8}{15}$ and $\frac{-24}{48}$
(d) $\frac{9}{72}$ and $\frac{-3}{21}$

Answer: (b) $\frac{-25}{35}$ and $\frac{55}{-77}$

Question 2.
Which number is in the middle if $\frac{-1}{6}$, $\frac{4}{9}$, $\frac{6}{-7}$, $\frac{2}{5}$ and $\frac{-3}{4}$ arranged in descending order?
(a) $\frac{2}{5}$
(b) $\frac{4}{9}$
(c) $\frac{-1}{6}$
(d) $\frac{-6}{7}$

Answer: (c) $\frac{-1}{6}$

Question 3.
Find the multiplicative inverse of -13.
(a) 13
(b) -13
(c) $\frac{-1}{13}$
(d) 12

Answer: (c) $\frac{-1}{13}$

Question 4.
Which of the following statements is true?
(a) Every fraction is a rational number.
(b) Every rational number is a fraction.
(c) Every integer is a rational number.
(d) Both (a) and (c).

Answer: (d) Both (a) and (c).

Question 5.
Which of the following is the identity element under addition?
(a) 1
(b) -1
(c) 0
(d) None of these

Answer: (c) 0

Question 6.
What is the additive inverse of $\frac{-2}{3}$?
(a) 0
(b) 1
(c) $\frac{2}{3}$
(d) $\frac{-2}{3}$

Answer: (c) $\frac{2}{3}$

Question 7.
Write the additive inverse of $\frac{4}{5}$.
(a) 1
(b) $\frac{-4}{5}$
(c) $\frac{4}{5}$
(d) 0

Answer: (b) $\frac{-4}{5}$

Question 8.
Which among the following is a rational number equivalent to $\frac{-5}{-3}$?
(a) $\frac{-25}{15}$
(b) $\frac{25}{-15}$
(c) $\frac{25}{15}$
(d) $\frac{-25}{30}$

Answer: (c) $\frac{25}{15}$

Question 9.
Which of the following is the reciprocal of the reciprocal of a rational number?
(a) -1
(b) 1
(c) 0
(d) The number itself

Answer: (d) The number itself

Question 10.
How is $\frac{-28}{84}$ expressed as a rational number with numerator 4?
(a) $\frac{4}{7}$
(b) $\frac{-4}{12}$
(c) $\frac{4}{12}$
(d) $\frac{4}{-7}$

Answer: (b) $\frac{-4}{12}$

Question 11.
The value of $\frac{1}{2} \times \frac{3}{5}$ is equal to:
(a) $\frac{1}{2}$
(b) $\frac{3}{10}$
(c) $\frac{3}{5}$
(d) $\frac{2}{5}$

Answer: (b) $\frac{3}{10}$

Question 12.
What should be subtracted from $\frac{-7}{11}$ to get −2?
(a) $\frac{15}{11}$
(b) $\frac{-15}{11}$
(c) $\frac{29}{11}$
(d) $\frac{-29}{11}$

Answer: (a) $\frac{15}{11}$

Question 13.
Which of the following is the Multiplicative identity for rational numbers?
(a) 1
(b) -1
(c) 0
(d) None of these

Answer: (a) 1

Question 14.
_____ is not associative for rational numbers.
(a) Subtraction or Division
(b) Addition or Multiplication
(c) Addition or Division
(d) Multiplication or Division

Answer: (a) Subtraction or Division

Question 15.
Which of the following is the Multiplicative identity for rational numbers?
(a) 1
(b) -1
(c) 0
(d) None of these

Answer: (a) 1

Question 16.
A number which can be written in the form, p/q where p and q are integers and _____ is called a rational number.
(a) $q = 0$
(b) $q \neq 0$
(c) $q = 1$
(d) none of these

Answer: (b) $q \neq 0$

Question 17.
The value of $\frac{1}{2} + \frac{1}{4}$ is equal to:
(a) $\frac{3}{4}$
(b) $\frac{3}{2}$
(c) $\frac{2}{3}$
(d) 1

Answer: (a) $\frac{3}{4}$

Question 18.
Find the multiplicative inverse of $\frac{1}{4}$.
(a) 4
(b) $\frac{-1}{4}$
(c) -4
(d) $\frac{1}{4}$

Answer: (a) 4

Question 19.
Which of the following is the reciprocal of a rational number?
(a) -1
(b) 1
(c) 2
(d) Both a and b

Answer: (d) Both a and b

Question 20.
What is the sum of the additive inverse and multiplicative inverse of 2?
(a) $\frac{3}{2}$
(b) $\frac{-3}{2}$
(c) $\frac{1}{2}$
(d) $\frac{-1}{2}$

Answer: (b) $\frac{-3}{2}$

Question 21.
Which of the following statements is true?
(a) Every fraction is a rational number.
(b) Every rational number is a fraction.
(c) Every integer is a rational number.
(d) Both (a) and (c).

Answer: (d) Both (a) and (c).

Question 22.
Find the reciprocal of -2.
(a) 2
(b) -2
(c) $\frac{-1}{2}$
(d) None of these

Answer: (c) $\frac{-1}{2}$
