1. Which among the following is the smallest rational number?

   (a) $-\dfrac{4}{11}$　　(b) $\dfrac{-13}{-12}$　　(c) $\dfrac{49}{-12}$　　(d) -9

2. Which of the following is not equivalent to $-\dfrac{124}{217}$?

   (a) $\dfrac{172}{-301}$　　(b) $-\dfrac{164}{287}$　　(c) $\dfrac{117}{273}$　　(d) $\dfrac{81}{189}-1$

3. Which among the following is $\dfrac{2}{5}$ less than thrice of $\dfrac{17}{18}$?

   (a) $\dfrac{73}{30}$　　(b) $\dfrac{97}{30}$　　(c) $\dfrac{67}{45}$　　(d) $\dfrac{103}{45}$

4. The value of $\dfrac{44}{-9}+\dfrac{22}{45}$ is

   (a) 2　　(b) -10　　(c) 5　　(d) $\dfrac{2}{5}$

5. $\left(\dfrac{2}{9}+\dfrac{3}{4}\right)\div\left(2-\dfrac{1}{18}\right)=$

   (a) $\dfrac{1}{2}$　　(b) 2　　(c) $\dfrac{1}{35}$　　(d) $\dfrac{2}{35}$

6. Multiply $\dfrac{9}{14}$ by the reciprocal of $\dfrac{-12}{7}$.

   (a) $\dfrac{-3}{4}$　　(b) $\dfrac{-3}{8}$　　(c) $\dfrac{-8}{3}$　　(d) $\dfrac{-4}{7}$

7. The reciprocal of additive inverse of $\dfrac{-5}{23}$ is

   (a) $\dfrac{5}{23}$　　(b) $\dfrac{-23}{5}$　　(c) $\dfrac{23}{5}$　　(d) None of these

8. If $\dfrac{7}{-15}+\dfrac{11}{20}-1+\dfrac{1}{3}+\dfrac{4}{5}=1-\dfrac{k}{60}$, then k =

   (a) 13　　(b) 47　　(c) 73　　(d) -13

9. $\left(\dfrac{-19}{23}+\dfrac{1}{4}-0\right)+\left(\dfrac{2}{3}-\dfrac{8}{9}\right) =$

(a) $\left(\dfrac{1}{4}+\dfrac{2}{3}\right)-\left(\dfrac{19}{23}+\dfrac{8}{9}\right)$

(b) $\left(\dfrac{-8}{9}+\dfrac{1}{4}\right)-\left(\dfrac{19}{23}+\left(\dfrac{-2}{3}\right)\right)$

(c) $-\left(\dfrac{8}{9}-\dfrac{2}{3}\right)+\left(\dfrac{1}{4}-\dfrac{19}{23}\right)$

(d) All of these

10. Which among the following lies in between $\dfrac{-7}{4}$ and $\dfrac{5}{3}$ on the number line?

(a) $\dfrac{7}{8}$

(b) $\dfrac{-3}{8}$

(c) $-1\dfrac{2}{8}$

(d) All of these

11. If $\dfrac{p}{q}$ is a rational number, then which among the following lies between 0 and $\dfrac{p}{q}$?

(a) $\dfrac{2p}{q}$

(b) $\dfrac{-4p}{q}$

(c) $\dfrac{p}{2q}$

(d) $\dfrac{-p}{2q}$

12. Which of the following lies between −1 and −2?

(a) $\dfrac{-19}{14}$

(b) $\dfrac{-7}{9}$

(c) $\dfrac{-23}{7}$

(d) $\dfrac{17}{8}$

13. The number of rational number with denominator as unity between $\dfrac{-74}{19}$ and $\dfrac{103}{21}$ are

(a) 6

(b) 7

(c) 8

(d) 9

14. The number of rational numbers with numerator as unity between $\dfrac{-5}{3}$ and $\dfrac{3}{4}$ are

(a) 1

(b) 2

(c) 12

(d) Infinite

15. The numerical expression $\dfrac{3}{8}+\dfrac{(-5)}{7}=\dfrac{-19}{56}$ shows that

(a) rational numbers are closed under addition.

(b) rational numbers are not closed under addition.

(c) rational numbers are closed under multiplication.

(d) addition of rational numbers is not commutative.

16. The additive inverse of $\dfrac{-7}{19}$ is

(a) $\dfrac{-7}{19}$ (b) $\dfrac{7}{19}$ (c) $\dfrac{19}{7}$ (d) $\dfrac{-19}{7}$

17. Multiplicative inverse of a negative rational number is

(a) a positive rational number (b) a negative rational number

(c) 0 (d) 1

18. To get the product 1, we should multiply $\dfrac{8}{21}$ by

(a) $\dfrac{8}{21}$ (b) $\dfrac{-8}{21}$ (c) $\dfrac{21}{8}$ (d) $\dfrac{-21}{8}$

19. The multiplicative inverse of $-1\dfrac{1}{7}$ is

(a) $\dfrac{8}{7}$ (b) $\dfrac{-8}{7}$ (c) $\dfrac{7}{8}$ (d) $\dfrac{7}{-8}$

20. The reciprocal of −1 is

(a) 1 (b) −1 (c) 0 (d) Not defined

21. The reciprocal of any rational number $\dfrac{p}{q}$, where p and q are integers and $q \neq 0$, is

(a) $\dfrac{p}{q}$ (b) 1 (c) 0 (d) $\dfrac{q}{p}$

22. The reciprocal of $\dfrac{-3}{8} \times \left(\dfrac{-7}{13}\right)$ is

(a) $\dfrac{104}{21}$ (b) $\dfrac{-104}{21}$ (c) $\dfrac{21}{104}$ (d) $\dfrac{-21}{104}$

In the following questions, a statement of assertion (Statement I) is followed by statement of reason (Statement II). Mark the correct choice as:

Codes:

(a) If both Statement I and Statement II are true and Statement II is the correct explanation of Statement I.

(b) If both Statement I and Statement II are true but Statement II is not the correct explanation of Statement I.

(c) If Statement I is true but Statement II is false.

(d) If Statement I is false but Statement II is true.

23. Statement I: Every unit fraction is a rational number.

    Statement II: $\dfrac{p}{q}$ is a fraction of $p, q \in W, q \neq 0$.

24. Statement I: $-\dfrac{1}{3} + \left(\dfrac{2}{11} + \dfrac{1}{4}\right) = \left(\dfrac{-1}{3} + \dfrac{2}{11}\right) + \dfrac{1}{4}$

    Statement II: By associative property of addition, three or more rational numbers can be added by grouping them in any order.

25. Statement I: $\left\{\dfrac{1}{4} \times \dfrac{3}{11}\right\} + \left\{\dfrac{1}{4} \times \left(\dfrac{-3}{7}\right)\right\} = \dfrac{1}{4} \times \left\{\dfrac{3}{11} + \left(\dfrac{-3}{7}\right)\right\}$

    Statement II: By commutative property of addition, we can say that $\dfrac{a}{b} + \dfrac{m}{n} = \dfrac{m}{n} + \dfrac{a}{b}$, where $\dfrac{a}{b}$ and $\dfrac{m}{n}$ are rational numbers.

26. Statement I: $\dfrac{3}{4} \times \left[\dfrac{2}{3} - \left(-\dfrac{5}{6}\right)\right] = \left(\dfrac{3}{4} \times \dfrac{2}{3}\right) - \left[\dfrac{3}{4} \times \left(-\dfrac{5}{6}\right)\right]$

    Statement II: By distributivity of multiplication over subtraction. We can say that $x(y - z) = xy + xz$.

27. Statement I: There exist only 5 rational numbers between $\dfrac{1}{4}$ and $\dfrac{1}{2}$.

    Statement II: Between any two given rational numbers, there are infinite rational numbers.

C-9, Greater Kailash Enclave 2, New Delhi; Phone 9810815644, 9910393669
Email: info.educonclave@gmail.com; sangeettuli@gmail.com

4

ANSWERS

1. D	2. C	3. A	4. B
5. A	6. B	7. C	8. B
9. D	10. D	11. C	12. A
13. C	14. D	15. A	16. B
17. B	18. C	19. D	20. B
21. D	22. A	23. B	24. A
25. A	26. B	27. D	

C-9, Greater Kailash Enclave 2, New Delhi; Phone 9810815644, 9910393669
Email: info.educonclave@gmail.com; sangeettuli@gmail.com

5