26. The equivalent of $\dfrac{5}{7}$, whose numerator is 45 is _____.

27. The equivalent rational number of $\dfrac{7}{9}$, whose denominator is 45 is _____.

28. Between the numbers $\dfrac{15}{20}$ and $\dfrac{35}{40}$, the greater number is _____.

29. The reciprocal of a positive rational number is _____.

30. The reciprocal of a negative rational number is _____.

31. Zero has _____ reciprocal.

32. The numbers _____ and _____ are their own reciprocal.

33. If y be the reciprocal of x, then the reciprocal of y^2 in terms of x will be _____.

34. The reciprocal of $\dfrac{2}{5} \times \left(\dfrac{-4}{9} \right)$ is _____.

35. $(213 \times 657)^{-1} = 213^{-1} \times$ _____.

36. The negative of 1 is _____.

114. The cost of $\dfrac{19}{4}$ metres of wire is Rs. $\dfrac{171}{2}$. Find the cost of one metre of the wire.

67. $3x - \dfrac{x-2}{3} = 4 - \dfrac{x-1}{4}$

68. $\dfrac{3t+5}{4} - 1 = \dfrac{4t-3}{5}$

97. The age of A is five years more than that of B. 5 years ago, the ratio of their ages was 3:2. Find their present ages.

81. Add:

(iii) $xy^2z^2 + 3x^2y^3z - 4x^2yz^2, \; -9x^2y^3z + 3xy^2z^2 + x^2yz^2$

(iv) $5x^2 - 3xy + 4y^2 - 9, \; 7y^2 + 5xy - 2x^2 + 13$

82. Subtract :

(iv) $3t^4 - 4t^3 + 2t^2 - 6t + 6$ from $-4t^4 + 8t^3 - 4t^2 - 2t + 11$

(v) $2ab + 5bc - 7ac$ from $5ab - 2bc - 2ac + 10abc$

83. Multiply the following:

(vii) $7pqr$, $(p - q + r)$

(viii) $x^2y^2z^2$, $(xy - yz + zx)$

(ix) $(p + 6)$, $(q - 7)$

19. $\left(\dfrac{-7}{5}\right)^{-1}$ is equal to

(a) $\dfrac{5}{7}$　　　　(b) $-\dfrac{5}{7}$　　　　(c) $\dfrac{7}{5}$　　(d) $\dfrac{-7}{5}$

20. $(-9)^3 \div (-9)^8$ is equal to

(a) $(9)^5$　　　　(b) $(9)^{-5}$　　　　(c) $(-9)^5$　　(d) $(-9)^{-5}$

21. For a non-zero integer x, $x^7 \div x^{12}$ is equal to

(a) x^5　　　　(b) x^{19}　　　　(c) x^{-5}　　(d) x^{-19}

22. For a non-zero integer x, $(x^4)^{-3}$ is equal to

(a) x^{12}　　　　(b) x^{-12}　　　　(c) x^{64}　　(d) x^{-64}

23. The value of $(7^{-1} - 8^{-1})^{-1} - (3^{-1} - 4^{-1})^{-1}$ is

(a) 44　　　　(b) 56　　　　(c) 68　　(d) 12

24. The standard form for 0.000064 is

(a) 64×10^4　　(b) 64×10^{-4}　　(c) 6.4×10^5　　(d) 6.4×10^{-5}

22. What is the central angle of the sector (in the above pie chart) representing hormones enzymes and other proteins.

    (a) 120°   (b) 144°   (c) 156°   (d) 176°

23. A coin is tossed 12 times and the outcomes are observed as shown below:

The chance of occurrence of Head is

    (a) $\dfrac{1}{2}$ (b) $\dfrac{5}{12}$ (c) $\dfrac{7}{12}$ (d) $\dfrac{5}{7}$
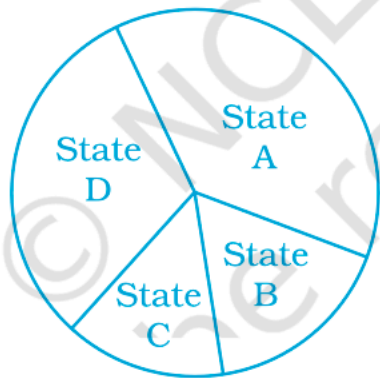
24. Total number of outcomes, when a ball is drawn from a bag which contains 3 red, 5 black and 4 blue balls is

    (a) 8   (b) 7   (c) 9   (d) 12

25. A graph showing two sets of data simultaneously is known as

    (a) Pictograph   (b) Histogram   (c) Pie chart   (d) Double bar graph

75. From the given pie chart, we can infer that production of Manganese is least in state B.


Production of Manganese
in 4 different states

76. One or more outcomes of an experiment make an event.

In questions 59 to 81, state whether the statements are true (T) or false (F).

23. The sum of all exterior angles of a triangle is

    (a) 180°   (b) 360°   (c) 540°   (d) 720°

24. Which of the following is an equiangular and equilateral polygon?

    (a) Square   (b) Rectangle   (c) Rhombus   (d) Right triangle

25. Which one has all the properties of a kite and a parallelogram?

    (a) Trapezium (b) Rhombus   (c) Rectangle   (d) Parallelogram

26. The angles of a quadrilateral are in the ratio 1 : 2 : 3 : 4. The smallest angle is

    (a) 72°   (b) 144°   (c) 36°   (d) 18°

27. In the trapezium ABCD, the measure of $\angle D$ is

    (a) 55°   (b) 115°   (c) 135°   (d) 125°
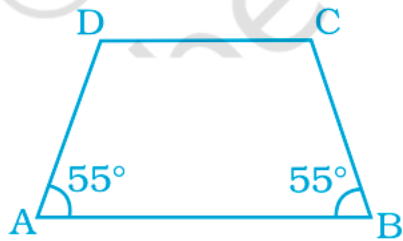
28. A quadrilateral has three acute angles. If each measures 80°, then the measure of the fourth angle is

    (a) 150°   (b) 120°   (c) 105°   (d) 140°

29. The number of sides of a regular polygon where each exterior angle has a measure of 45° is

    (a) 8   (b) 10   (c) 4   (d) 6

16. Both x and y vary directly with each other and when x is 10, y is 14, which of the following is not a possible pair of corresponding values of x and y?

(a) 25 and 35   (b) 35 and 25   (c) 35 and 49   (d) 15 and 21

70. A car covers a distance in 40 minutes with an average speed of 60 km/h. What should be the average speed to cover the same distance in 25 minutes?

79. If 25 metres of cloth costs Rs 337.50, then

   (i)   What will be the cost of 40 metres of the same type of cloth?

   (ii)   What will be the length of the cloth bought for Rs 810?