



SAMPLE PAPER – SA-II
ANSWER KEY
[SESSION 2016-2017]
MATHEMATICS
CLASS VI

Ans 1. Expanded Form of 31.005 is $30 + 1 + \frac{0}{10} + \frac{0}{100} + \frac{5}{1000}$

Ans 2. 1 kg = 1000g

So 10 Kg = 10000g

Ratio = 10000:300

= 100:3

Ans 3. Perimeter of a regular pentagon = 1540cm

Sides of pentagon = 5

Length of each side = $1540/5 = 308\text{cm}$

Ans 4. $2(x+y)-xy$

Ans 5. Comparing both fractions :

LCM of 6 and 5 = 30

$$\frac{5}{6} = \frac{5}{6} \times \frac{5}{5} = \frac{25}{30}$$

$$\frac{2}{5} = \frac{2}{5} \times \frac{6}{6} = \frac{12}{30}$$

Mary's cupboard is more filled.

Ans 6. Length of the wall = $2 \times 7 = 14\text{ cm}$

Breadth of the wall = $2 \times 4 = 8\text{ cm}$

Area of the wall = $l \times b = 14 \times 8 = 112\text{cm}^2$

Ans 7. a) $pq - 7$

b) $21 - 3z$

Ans 8. Equivalent fraction of $\frac{2}{9}$ with denominator 45 = $\frac{2}{9} \times \frac{5}{5} = \frac{10}{45}$

Ans 9. Length of the field = 240m

Breadth of the field = 180m

Perimeter of the field = $2(l + b)$

$$= 2(240 + 180) = 600\text{m}$$

Total length of the wire used to fence it by 4 rounds = $600 \times 4 = 2400\text{m}$

Ans 10. 1 hour = 60 min

$$2.5 \text{ hours} = 60 \times 2.5 = 150 \text{ min}$$

$$\text{Ratio} = 50 : 150 = 1 : 3$$

Ans 11. Length of side of the square park = 85m

$$\text{Perimeter of the square park} = 4 \times \text{side} = 4 \times 85 = 340\text{m}$$

Length of the rectangular park = 75m

Breadth of the rectangular park = 60m

$$\text{Perimeter of the rectangular park} = 2(l+b)$$

$$= 2(75+60) = 2 \times 130 = 260\text{m}$$

Priya covers lesser distance by $340 - 260 = 80\text{m}$

$$\text{Ans 12. } \frac{3}{7} = \frac{p}{84}$$

$$\frac{3}{7} \times \frac{12}{12} = \frac{36}{84}$$

Thus $p = 36$

Ans 13. Total no of students = 30

No of students liking cake = 6

No of students liking muffins = 12

No of students liking donuts = $30 - (6 + 12) = 12$

a) Ratio of no of students liking cake to no of students liking donuts = $\frac{6}{12} = \frac{1}{2} = 1:2$

b) Ratio of no of students liking muffins to total no of students = $\frac{12}{30} = \frac{2}{5} = 2:5$

Ans 14. Side of 1 small square = 1 cm

Perimeter of figure 1 = 10 cm

Perimeter of figure 2 = 12 cm

Figure 1 has smaller perimeter by $12 - 10 = 2$ cm

Ans 15. $2\frac{4}{7} + \frac{3}{49}$

LCM of 7 and 49 = 49

$$= \frac{18}{7} + \frac{3}{49}$$

$$= \frac{(18 \times 7) + (3 \times 1)}{49}$$

$$= \frac{(126+3)}{49}$$

$$= \frac{129}{49}$$

$$= 2\frac{31}{49}$$

Ans 16. $\frac{10}{5} = \frac{\square}{4} = \frac{4}{\square} = \frac{\square}{7}$

$$10:5 = 2:1$$

Thus the answers is : $\frac{10}{5} = \frac{8}{4} = \frac{4}{2} = \frac{14}{7}$

Ans 17. Total students in a class = p

Money collected by 1 students = Rs 50

Total money collected = Rs 50p

Money given as an advance for transport = Rs 2100

Thus money left = (50p - 2100)Rs

Ans 18. Sum of 9.125 and 12.36= 21.485

Sum of 25.2 and 103.167 = 128.367

Difference = 106.882

Ans 19. Age of Siya = 15 years

Age of Jiya = 12 years

Ratio of ages of Siya to Jiya = 15/12 = 5:4

Total money = Rs 36

Money with Siya = $\frac{5}{9} \times 36 = \text{Rs } 20$

Money with Jiya = $\frac{4}{9} \times 36 = \text{Rs } 16$

Ans 20.

No of Huts	1	2	3	n
Matchsticks required	6	11	16	??

No of matchsticks required to make next pattern = 5

Common Matchstick = 1

Generalized Rule = $5n + 1$

Ans 21. $\frac{7}{8}, \frac{4}{5}, \frac{3}{4}$

LCM of 8, 5, 4 is 40

$$\frac{7}{8} \times \frac{5}{5} = \frac{35}{40}$$

$$\frac{4}{5} \times \frac{8}{8} = \frac{32}{40}$$

$$\frac{3}{4} \times \frac{10}{10} = \frac{30}{40}$$

$$\text{Thus } \frac{7}{8} > \frac{4}{5} > \frac{3}{4}$$

Ans 22. Length of both the pieces of ribbon = $8 \frac{1}{6}$ m and $5 \frac{3}{4}$ m

$$\text{Total length of the ribbons} = \frac{49}{6} + \frac{23}{4} = \frac{(49 \times 2) + (23 \times 3)}{12} = \frac{167}{12} \text{ m}$$

$$\text{Length of the wire used} = 9 \frac{2}{3} \text{ m} = \frac{29}{3} \text{ m}$$

$$\text{Remaining length of the wire} = \frac{167}{12} \text{ m} - \frac{29}{3} \text{ m} = \frac{(167 \times 1) + (29 \times 4)}{12} =$$

$$\frac{51}{12} \text{ m} = 4 \frac{3}{12} \text{ m}$$

Ans 23. Equivalent fractions of $\frac{8}{9}$ are:

$$\frac{8}{9} \times \frac{2}{2} = \frac{16}{18}$$

$$\frac{8}{9} \times \frac{3}{3} = \frac{24}{27}$$

$$\frac{8}{9} \times \frac{4}{4} = \frac{32}{36}$$

$$\frac{8}{9} \times \frac{5}{5} = \frac{40}{45}$$

Equivalent fractions of $\frac{7}{11}$ are:

$$\frac{7}{11} \times \frac{2}{2} = \frac{14}{22}$$

$$\frac{7}{11} \times \frac{3}{3} = \frac{21}{33}$$

$$\frac{7}{11} \times \frac{4}{4} = \frac{28}{44}$$

$$\frac{7}{11} \times \frac{5}{5} = \frac{35}{55}$$

Ans 24. One side of the square = 2cm

Area of small square = side × side

$$= 2\text{cm} \times 2\text{cm} = 4\text{ cm}^2$$

Total area of all the squares = 28 cm²

So, Number of squares = Total Area of all squares/ Area of one square

$$= 28/4 = 7$$

Now, Total length of the wire = Perimeter of all 7 squares

Perimeter of one square = 4 × side

$$= 4 \times 2 = 8\text{cm}$$

Therefore total length of the wire = 8cm × 7 = 56cm

Ans 25. Length of the Rectangular Region = 500 cm

Breadth of the Rectangular Region = 144 cm

Area of the Rectangular Region = l × b

$$= 72000\text{ cm}^2$$

Length of the tile = 10 cm

Breadth of the tile = 3 cm

Area of the tile = l × b = 30 cm²

Thus, Number of tiles = Area of rectangular region/ Area of 1 tile

$$= 72000/30 = 2400\text{ tiles}$$

Ans 26. Length of the garden = 20m

Breadth of the garden = 15m

Area of the tile = l × b = 300 m²

Side of the square flower bed = 4m

Area of square flower bed = side × side = 16m²

Total number of flower beds = 4

So, total area of all flower beds = 4 × 16 = 64m²

Area of the remaining garden = 300 - 64 = 236 m²

Ans 27. Weight of apples = 2 kg 40 g = 2.040 kg
 Weight of grapes = 3 kg 70 g = 3.070 kg
 Weight of mangoes = 4kg 200 g = 4.200 kg
 Total weight of the fruits = 9.31 kg

Ans 28. Speed of the bus = v km/hr
 Thus, distance covered by bus in 1 hr = v km
 Distance travelled by bus in 5 hrs = $5v$ km
 Total distance between point A and B = $(5v + 20)$ km

Ans 29. Perimeter of the shaded portion = 10 cm
 Perimeter of the outer boundary = 20 cm

Thus ratio of the shaded portion to outer boundary = $\frac{10}{20} = \frac{1}{2}$ or 1:2

Ans 30. A) Money earned by Esha in 4 months = 32000 Rs

By Unitary Method,

Money earned by Esha in 1 month = $\frac{32000}{4} = 8000$ Rs

Money earned by Esha in 1 year (12 months) = $8000 \times 12 = 96,000$ Rs

B) 8000 Rs is earned in 1 Month

By Unitary Method,

1 Rs is earned in $\frac{1}{8000}$ Months

Therefore, Rs 88,000 is earned in $\frac{1}{8000} \times 88000 = 11$ Months

Ans 31. $p - 5 = 5$ (0,10,5,-5)
 LHS of the equation = $p - 5$
 RHS of the equation = 5
 If $p = 0$
 LHS : $p - 5 = 0 - 5 = (-5)$
 LHS \neq RHS
 If $p = 10$
 LHS : $p - 5 = 10 - 5 = 5$

LHS = RHS

If $p = 5$

LHS : $p - 5 = 5 - 5 = 0$

LHS \neq RHS

If $p = (-5)$

LHS : $p - 5 = -5 - 5 = (-10)$

LHS \neq RHS

Thus $p = 10$ is the solution of the equation.