1. **(c)**
2. **(c)**
3. **(a)**
4. **(d):** Reciprocal of $1\frac{3}{4}$ i.e., $\frac{7}{4}$ is $\frac{4}{7}$.
5. **(a):** Total length of the wire $= 10\frac{1}{2}$ m $= \frac{21}{2}$ m

Number of pieces cut off $= 5$

Length of each piece $= 1\frac{1}{4}$ m $= \frac{5}{4}$ m

Total length that was cut off $= 5 \times 1\frac{1}{4}$

$= 5 \times \frac{5}{4} = \frac{25}{4}$ m

Length of the wire left $= \frac{21}{2} - \frac{25}{4} = \frac{42-25}{4} = \frac{17}{4}$ m $= 4\frac{1}{4}$ m.

6. **(d):** $7 \div \frac{2}{5} = 7 \times \frac{5}{2} = \frac{35}{2}$
7. **(b):** 63 tenths $= \frac{63}{10} = 6.3$

543 hundredths $= \frac{543}{100} = 5.43$

Required number $= 6.3 - 5.43 = 0.87$

8. **(b):** Let the number be x.

Then, according to the question,

$\frac{4}{15} \times \frac{5}{7} \times x = \frac{4}{9} \times \frac{2}{5} \times x + 8$

$\Rightarrow \frac{4}{21}x = \frac{8}{45}x + 8 \Rightarrow \frac{4}{21}x - \frac{8}{45}x = 8$

$\Rightarrow \frac{15 \times 4x - 7 \times 8x}{315} = 8 \Rightarrow \frac{60x - 56x}{315} = 8$

$\Rightarrow \frac{4x}{315} = 8$

$\Rightarrow x = 8 \div \frac{4}{315} \Rightarrow x = 8 \times \frac{315}{4} \Rightarrow x = 630$

Half of the number $= \frac{1}{2} \times 630 = 315$

9. **(b):** 1hr = 60 min

$1\frac{3}{4}$ hours $= \frac{7}{4}$ hours $= 60 \times \frac{7}{4}$ min

$= 15 \times 7$ min $= 105$ min

10. **(b):** Total number of people $= 600$

Number of females $= \frac{1}{3} \times 600 = 200$ School girls $= \frac{1}{2} \times 200 = 100$

11. **(b):** $7x + 3 = 17$

$\Rightarrow 7x = 17 - 3 = 14 \therefore 7x - 3 = 14 - 3 = 11$

12. **(b):** Let the total distance be x km.

Distance travelled by train $= \frac{5}{8}$x km Distance travelled by bus $= \frac{1}{4}$x km

Distance travelled by boat $= 15$ km

$\frac{5}{8}x + \frac{1}{4}x + 15 = x$

$\Rightarrow \frac{5x + 2x}{8} - x = -15 \Rightarrow \frac{7x - 8x}{8} = -15$

$\Rightarrow -\frac{x}{8} = -15 \Rightarrow x = -15 \times (-8) = 120$

Hence, total distance travelled is 120 km.

13. **(b):** Given number $= x$, Thrice of x $= 3x$

Thrice of x decreased by $5 = 3x - 5$

$3x - 5 = 27$

14. **(b):** Let one angle be x.

Other angle i.e., its complement angle $= 90° - x$

$x - (90° - x) = 10°$

$\Rightarrow x - 90° + x = 10° \Rightarrow 2x = 100° \Rightarrow x = 50°$

One angle $= 50°$ and other angle $= 90° - 50° = 40°$

Hence, larger angle is $50°$.

15. **(d):** $2m - 6 = 14$

16. $2m = 14 + 6 = 20 \Rightarrow m = \frac{20}{2} = 10$

$3m - 6 = 3 \times 10 - 6 = 30 - 6 = 24$

16. **(b):** $3m + 2(m + 2) = 20 - (2m - 5)$

$\Rightarrow 3m + 2m + 4 = 20 - 2m + 5$

$\Rightarrow 5m + 4 = 25 - 2m \Rightarrow 5m + 2m = 25 - 4$

$\Rightarrow 7m = 21 \Rightarrow m = \frac{21}{7} = 3$

17. **(b):** Let the first odd number be x.

Then, second and third odd numbers are $(x + 2)$

and $(x + 2) + 2$ i.e., $x + 4$ respectively.

According to question, $x + (x + 2) + x + 4 = 63$

$\Rightarrow 3x + 6 = 63 \Rightarrow 3x = 57 \Rightarrow x = 57 \div 3 = 19$

Smallest number $= 19$

18. **(c):** Let the two numbers be 2x and 3x.

According to the question, $\frac{2x+2}{3x+10} = \frac{1}{2}$

$\Rightarrow 2(2x + 2) = 1 \times (3x + 10) \Rightarrow 4x + 4 = 3x + 10$

$\Rightarrow 4x - 3x = 10 - 4 = 6 \Rightarrow x = 6$

First number $= 2 \times x = 2 \times 6 = 12$

Second number $= 3 \times x = 3 \times 6 = 18$

19. **(c):** $0.06x + 0.09(15 - x) = 0.07(15)$

$\Rightarrow 0.06x + 1.35 - 0.09x = 1.05$

$\Rightarrow -0.03x = 1.05 - 1.35 \Rightarrow -0.03x = -0.3$

$\Rightarrow x = \frac{0.3}{0.03} = 10$

20. **(b):** Let number of marks scored by Aashi $= x$

Number of marks scored by Manvi $= 4x + 16$

Thus, according to question, $4x + 16 = 72$

21. **(b):** Antacid is used to neutralize excess of acid produced by stomach.
22. **(c):** Bases are used to neutralize acidic waste of the factories.
23. **(c)**
24. **(c)**
25. **(c)** Carbonic acid is a weak mineral acid.
26. **(b)** Salt solutions are good conductors of electricity due to the formation of mobile ions.
27. **(b)** $2Al(OH)_3 + 3H_2SO_4 \rightarrow Al_2(SO_4)_3 + 6H_2O$ Aluminium sulphate.
28. **(d)** The process due to which an acid completely reacts with a base to form a salt and water

products is called neutralisation. Slaked lime is added to soil to neutralize the acidity of the soil. Persons suffering from acidity is given antacid tablets containing $Mg(OH)_2$ to neutralise acidity. Submariners in a submarine and astronauts in spaceships use lithium hydroxide to neutralize CO_2 which is exhaled

29. **(c)** The components present in pickles are inert towards glass and plastics. Hence, generally,
pickles are stored in glass vessels or plastic vessels.

30. **(d)** The components present in gunpowder are KNO_3, C and S. KNO_3 on heating gives KNO_2 and
O_2. The liberated O_2 is the source for the combustion of carbon and sulphur. The products formed are CO_2 and SO_2 which dissolve in water to form H_2CO_3 and H_2SO_3.

31. **(a)** Liver is the largest gland in the human body that secretes bile So, the correct answer is 'Liver'

32. **(b)**

33. **(a):** The food is taken in through mouth. From mouth, the food enters the food pipe or oesophagus which in turn opens into stomach. In stomach, the food is mechanically churned by alternate contraction and expansion of stomach. Also, in stomach, the food is mixed with digestive juices secreted by gastric glands. From stomach, the semi-digested food enters small intestine. Small intestine is the region where complete digestion and absorption of food occurs. The undigested food material from small intestine then passes into large intestine. Large intestine is involved in the absorption of water from undigested food. The semi-solid undigested food is then discharged to outside through anus.

34. **(d)** large intestine.

35. **(a):** Incisors are the front teeth. These are chisel-shaped and are used for biting and cutting.

36. **(c):** The food absorbed into the blood is transported to different parts of the body. It is used to provide energy and materials for growth and repair of body tissues. This process is known as assimilation.

37. **(a)**

38. **(c):** Frog uses its long sticky tongue to catch insects. Mosquito sucks up the blood of animals with its proboscis.

39. **(a):** According to the given Venn diagram, Q is liver which secretes bile that converts fat present in food into small fat droplets.

40. **(b):** Carbohydrate rich food like boiled rice grains are rich in starch. Starch gives positive result for iodine test, whereas sugar does not give positive result for iodine test.

41. (D)
42. (C)
43. (D)
44. (B)
45. (B)
46. (C)
47. (C)
48. (C)
49. (C)
50. (B)