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NATIONAL LEVEL SCIENCE TALENT SEARCH EXAMINATION

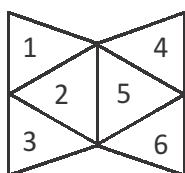
Paper Code: UN426

Solutions for Class : 3

Mathematics

1. (B) 275×9
 $= (270 + 5) \times 9$
 $= (270 \times 9) + (5 \times 9)$
2. (D) $\frac{8}{9} > \frac{7}{9} > \frac{2}{9} > \frac{1}{9}$
 Hence, $\frac{8}{9}, \frac{7}{9}, \frac{2}{9}, \frac{1}{9}$ is the set of fractions in descending order.
3. (A) Age of Hari is = 15 years 7 months

$$\begin{array}{r}
 \text{Age of Prasad} = \begin{array}{l} 14 \text{ years } 19 \text{ months} \\ \xrightarrow{+ 12 \text{ months}} \\ 15 \text{ years } 7 \text{ months} \end{array} \\
 \begin{array}{r}
 - 2 \text{ years } 10 \text{ months} \\
 \hline
 12 \text{ years } 9 \text{ months}
 \end{array} \\
 \text{Age of Farooq} = 12 \text{ years } 9 \text{ months} \\
 \begin{array}{r}
 + 3 \text{ years } 5 \text{ months} \\
 \hline
 15 \text{ years } 14 \text{ months}
 \end{array} \\
 \text{Age of Farooq} = 16 \text{ years } 2 \text{ months} \\
 (\square \text{ 1 year} = 12 \text{ months})
 \end{array}$$
4. (C) The given figure A is as follows



So, number of triangles B to be used to cover the shape A = 6

5. (D) Of the given options, a large drum of water can hold a capacity of about 10 l
6. (A) 1 week and 3 days mean 10 days. If today is Saturday, and the last day is after 10 days then it would fall on a Monday.
7. (B) Cost of video game = ₹ 750
 Money saved by Jack every week = 2500 paise
 $= ₹ 25$ [□ 1 rupee = 100 paise]
 So, number of weeks in which ₹ 750 will be saved = Total money to be saved ÷ Money saved in one week
 $= ₹ 750 \div ₹ 25 = 30$
8. (C) Distance between two flag posts = (7 - 0) m = 7m
 Distance between 2nd flag post and 16th flag post
 $= (16 - 2) \times 7 \text{ m}$
 $= 14 \times 7 \text{ m} = 98 \text{ m}$
9. (B) Total number of pencils and erasers = 16 + 27 = 43
10. (C) $3 \times 8 = 8 \times 3$
11. (C) Beads needed to make 1 chain = 106
 Beads needed to make 9 chains
 $= 106 \times 9 = 954$
12. (B) 1 decade - 10 years
 1 year - 365 days
 No. of days in 1 decade = 365 × 10 days
 $= 3650 \text{ days}$
13. (C) Total weight of Cherries = 1 kg = 1000 gm
 Weight of cherries left = 380 gm
 Weight of cherries Atul gave to Praful
 $= 1000 \text{ gm} - 380 \text{ gm} = 620 \text{ gm}$
 Therefore, the answer is option (C) 620 gm.

14. (C) In option (A), fraction of shaded parts = $\frac{2}{3}$
 In option (B), fraction of shaded parts = $\frac{4}{7}$
 In option (C), fraction of shaded parts = $\frac{6}{10}$
 In option (D), fraction of shaded parts = $\frac{4}{6}$
 In option (A), (B) and (D), fraction of shaded part does not show a correct fraction.

So, option (C) is correct.

15. (B) Given, $7 + 2 = 9$
 $70 + 20 = 90$
 So, $700 + 200 = 900$... (i)
 and $7000 + 2000 = 9000$
 Given, $700 + \square = 900$... (ii)
 On comparing Eqs. (i) and (ii), we get
 $\square = 200$
 Also, $\diamond + 2000 = 9000$
 $\therefore \diamond = 7000$
 $\therefore \square + \diamond = 200 + 7000$
 $= 7000 + 200 = 7200$

So, option (B) is correct.

16. (B) Time when Ali left home = 9:00 am
 Time spent in walking to Sam's house = 15 minutes
 Time spent at Sam's house = 2 hour 15 minutes
 Time spent in coming back to home = 15 minutes
 So, total time taken = 15 minutes + 2 hours 15 minutes + 15 minutes
 $= 2 \text{ hours } 45 \text{ minutes}$
 $\therefore$ Time when Ali arrived back home
 $= 9 : 00 \text{ am} + 2 \text{ hour } 45 \text{ minutes}$
 $= 11:45 \text{ a.m.}$

Which is equal to quarter to 12.

17. (D) Capacity of bucket = 5 l
 Capacity of water cooler = 45 l
 No. of buckets
 to fill the water cooler = $45 \div 5$

$$\begin{array}{r} 9 \\ 5 \overline{) 45} \\ \underline{- 45} \\ 0 \end{array}$$

18. (B) From the given balance scales water is the heaviest.

19. (D) ₹ 50 $\div$ ₹ 2 = 25

20. (B) Total number of equal parts = 16
 Number of shaded parts = 5

$$\text{Required shaded fraction} = \frac{3 \times 4}{4 \times 4}$$

No. of shaded parts in the figure = 5

More parts that have to be shaded
 $= 12 - 5 = 7$

21. (A) Number of curtains made from 44 m = 12
 Each curtain is made from $44 \text{ m} \div 12 = 12 \text{ m}$

22. (C) C, D, A, B is the correct arrangements

23. (C) Number of pens Marshall had = Δ
 Number of pens Ann had = 14
 Product of the number of pens Ann and Marshall have = 56

$$\text{i.e. } \Delta \times 14 = 56$$

So, number of pens Marshall had
 $= 56 \div 14$

$$\therefore \Delta = 56 \div 14$$

Hence, option (C) is correct.

24. (C) Smaller number = Larger number – Difference
 $= 105 - 45 = 60$

25. (B) Two ₹ 50 = $2 \times ₹ 50 = ₹ 100$

$$\text{Six ₹ 10 notes} = 6 \times ₹ 10 = ₹ 60$$

$$₹ 100 - ₹ 60 = ₹ 40.$$

$\therefore$ Two ₹ 20 notes make ₹ 40.

Hence, Mohan received 2 ₹ 20 notes.

26. (A) 3km 50 m + 923 m = 3 km 973 m

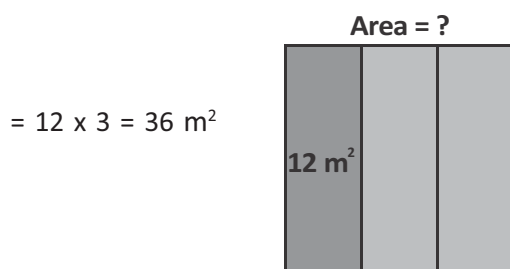
27. (B)  in this figure there are 10 sides.

28. (B) Odd numbers between 10 and 20 are :
 11, 13, 15, 17, 19

$\therefore$ No. of odd numbers = 5

29. (C) Money with Girish = ₹ 240
 Money with Harish = $240 - 93 = ₹ 147$
 Money with Venu = $147 + 486 = ₹ 633$
 $\therefore$ Total money = ₹ 240 + ₹ 147 + ₹ 633
 $= ₹ 1020$

30. (C) $\frac{8 \div 2}{12 \div 2} = \frac{4}{6}$
31. (C)
32. (A) 39 minutes past 7.
33. (C) Greatest 4-digit odd number = 9999
Greatest 4-digit even number = 9998
difference = 1.
34. (B) $240 \div 24 = 10$
35. (D) Taran was online at 11:30 pm.
36. (C) There are 8 pieces.
Arun's share = 4 pieces
Varun's share = 3 pieces
Remaining pieces = 1 piece
- part of cake left = $\frac{1}{8}$.
37. (A) Product of $275 \times 7 = 1925$
Sum of $847 + 653 = 1500$
Difference = 425
38. (C) Capacity of One dispenser = 2500 ml
Capacity of Two dispensers = 2×2500
 $= 5000 \text{ ml} = 5 \text{ l}$
 $\therefore$ No. of bottles needed to fill two dispensers = 5
39. (B) Present age
Jack's = 33 years
Jill's = $33 - 7$
 $= 26$ years
Age after 18 years
Jack's = $33 + 18 = 51$ years
Jill's = $26 + 18 = 44$ years
After 18 years, total age of Jack and Jill is
 $= 51 + 44 = 95$ years
40. (B) Area of square garden



The area of his square garden is 36 m^2 .

General Science

41. (A) A sapling is a living thing that grows.
42. (D) We should be careful while using sharp objects like blade, scissors and knife.
43. (B) The given figure is of Banyan tree.
44. (A) Crane is a wading bird.
45. (C) Stomata are the tiny openings present on the underside of leaf. It allows exchange of gases and release water in the form of water vapour.
46. (A) When birds sit, on a branch, their toes hold around the branch with feet locked, hence while sleeping birds don't fall.
47. (A) A tailor uses a measuring tape to measure the clothes.
48. (C) The figure in 'C' option is correct in showing the arrangement of layers in the soil.
49. (B) Chimney helps in let the smoke out of kitchen.
50. (A) Clouds are non-living things.
51. (D) The top soil, the subsoil and the parent material forms the layers of the soil.
52. (C) Birds are the only animals with feathers and two legs. Pigeon is a bird.
53. (C) The weight of the frog is $10 + 10 + 10 + 10 + 1 = 41$ grams
54. (B) Nervous system helps to know things around us.
55. (C) The sun rises in the east.
56. (C) The animals given in the box are birds, they have feathers.
57. (C) Water exists in 3 states they are solid, liquid, gaseous states.
58. (B) Twenty-four hours is the time taken for one rotation of the earth on its own axis.
59. (D) Potato and ginger store food in their underground stem. Underground stems have buds which can grow to produce new plants.
60. (C) Leaf is known as "Kitchen of the plant".
61. (D) Only green plants are capable of preparing food on their own. Non-green plants and animals cannot prepare food on their own.
62. (D) A bird is different from bat because it has feathers

63. (C) A fallen seed will grow into a new plant.
64. (C) Condensation is the change of gaseous state of water (water vapour) into liquid state.
65. (A) Humus is a part of soil formed by the rotting of leaves and decayed bodies of plants and animals.
66. (B) Water, mango, lemon and grape.
67. (C) Eggs are the animal products and are rich in proteins. Rice, bread and cereal are plant products rich in carbohydrates.
68. (C) Cactus and camel are desert animals.
69. (C) A planet revolves around the sun.
70. (D) A hut is a kutcha house.
71. (D) In the given food chain the animal 'P' must be a herbivore. Deer is a herbivore.
72. (D) Birds build nests to lay eggs, to provide shelter, protection and feed their young ones.
73. (B) In the given figure ice absorbs heat and melts to form liquid. The process is called melting.
74. (D) Yellow, red and green are the three colours that are to be used by Ram to paint the model of the traffic signal.
75. (C) Lion is a flesh-eating animal. Flesh eating animals have strong grinding teeth to grind flesh and bones. They also have strong (tearing teeth) canines to tear flesh.