NATIONAL LEVEL SCIENCE TALENT SEARCH EXAMINATION

Paper Code: UN423
Solutions for Class : 3

Maths

1. **(D)** The least odd number = 1 and the least even number is 2.

   ∴ The required least number = 2
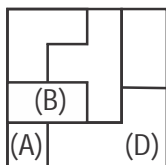
2. **(D)** $\dfrac{18}{24} = \dfrac{3}{?}$

   $? = \dfrac{24 \times 3}{18} = 4$

3. **(A)** Amount spent by Rani

   = ₹ 62 × 6 = ₹ 372

   Amount spent by Anusha

   = ₹ (372 + 48) = ₹ 420

   ∴ Total amount spent by them

   = ₹ (372 + 420) = ₹ 792

4. **(B)** 1 hr 50 min after 7 : 40 p.m.

   = 7 : 40 p.m. + 1 hr 50 min.

   = 9 : 30 p.m. + 45 min.

   = 10 : 15 pm.

5. **(C)** Looking at the given pattern made by using the blocks we see that, following blocks are being used.

   So, block in option figure (C) is not used in the pattern

6. **(B)** We know that February has 29 days in a leap year.

   Also, every leap year comes after 4 years.

   So, if 2000 was a leap year, then the other leap years are as follows

   2004, 2008, 2012, 2016

   It is 2013 now, so after 3 years a leap year will come i.e., 2016 − 2013 = 3 years

   Therefore, he can celebrate his sister's birthday after 3 years.

7. **(B)** Total number shown by the beads in the abacus = 3 × 100 + 2 × 10 + 4 × 1

   = 300 + 20 + 4 = 324

   Adding two more beads at hundred's bar will make the number = 500 + 20 + 4 = 524

8. **(D)** Given ☐ + ☐ + ☐ = ₹ 12.

   Hence, ☐ = ₹ 12 ÷ 3 = ₹ 4

   Also ○ + ○ + ☐ = ₹ 48

   So, ○ = ₹ (48 − 4) ÷ 2

   = ₹ 44 ÷ 2 = ₹ 22

   Therefore, ○ + ☐

   = ₹ 22 + ₹ 4 = ₹ 26.

9. **(B)** Dividend=(Quotient × Divisor) + Remainder

   = (180 × 5) + 3

   = 900 + 3 = 903

10. **(D)** 16 blocks 2 kg = 32 kg

11. **(D)** | A | 5 | 7 | 8 |

    $\left.\begin{array}{l} 5 + 7 + 8 = 20 \\ A + 5 + 7 = 20 \end{array}\right\}$ Sum of any three consecutive digits is 20.

    ∴ A = 8

12. **(A)** Cost of pair of shoes = ` 2300

Amount of money left

= Thirty five thousand paise

= 35000 paise

= `350   [∵ 1 rupee = 100 paise]

∴ Total money Sandy had = `2300 + `350

13. **(A)** Start time of mathematics class

= 9: 45 a.m.

End time = 11: 40 a.m.

Duration = (11: 40 – 9: 45) a.m.

= 1: 55 hours

14. **(B)** 5 Tens = 5 × 10 = 50

800 – 50 = 750

750 ÷ 25 = 30

15. **Deleted**

16. **(C)** The measuring jar in option (C) can be used to measure the capacity of the beaker of water.

17. **(D)** 593×2 = 593 + 593 is the correct statement.

18. **(A)** Length of line drawn by Sam = 17 centimetres

Length of line erased by Sreya = 3 centimetres from each end

= 3 × 2 centimetres = 6 centimetres

Length of line not erased = 17 – 6 = 11

So, fraction of length of line not erased

$= \dfrac{11}{17}$

19. **(D)** 1 litre = 1000 ml

1 litre of juice is shared between Madhavi and her uncle.

Quality of juice each of then get = 1000 ml ÷ 2 = 500 ml

20. **(D)** 320 + 320 + x = 987

987 – 640 = 347 m

21. **(C)** If △ = 9 and ▢ = 3 then 3 + 3 = 6 and 9 + 3 = 12

22. **(A)** Total no. of parts in the figure = 18

$$\dfrac{2 \;{\overset{\times 6}{}}\;}{3 \;{\underset{\times 6}{}}\;} = \dfrac{\boxed{12}}{18}$$
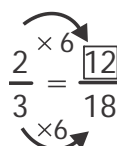
3 out of 12 parts are already shaded. So, the number of parts to be shaded = 12 – 3 = 9.

23. **(B)** Given number is

7 5 9 2 — Ones, Tens, Hundred, Thousand
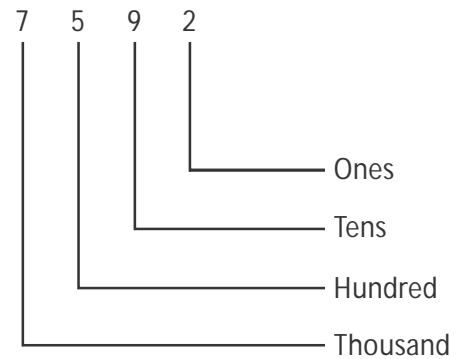
So, place value of 7 in 7529 = 7×1000 = 7000 and place value of 2 in 7529 = 2×1=2

∴ Difference of the place value of 7 and 2 in 7592 = 7000 – 2 = 6998

24. **(B)** 20 m + 20 cm

2000cm – 20 cm (∵ 1m = 100 cm)= 1980 cm

25. **(D)** Number of chocolates = 1600

Number of packets = 50

Number of chocolates in each packet

= 1600 ÷ 50 = 32

26. **(A)** Cost of each adult ticket = ₹ 10

Cost of each child ticket = ₹ 4

∴ Total cost of tickets for 4 adults and 3 children = ₹ (4 × 10 + 3 × 4) = ₹ 52

27. **(B)** Given number is 6013.

Arranging the digits in ascending order, we get 0 < 1 < 3 < 6

Now, 0 cannot be at thousand's place as a four-digit number is to be formed.

Hence, the smallest 4 -digit number formed by using the above digits is 1036.

28. **(D)** 5 × 6= 6 + 6 + 6 + 6 + 6

29. **(B)** 102 is even and is divisible by 3.

30. **(C)** 10 × ` 0.01 + 12 × ` 0.25 + 2 × ` 0.50

= Re 1 + ` 3 + Re 1 = ` 5

31. **(A)** 899 + 2431 = 3330

3800 – 580 = 3220

4923 – 1593 = 3330

6543 – 3213 = 3330

100 000 – 6670 = 3330

32. **(D)** The duration between 7 p.m. on a Monday to 10 a.m. on Tuesday is 15 hours. (Since, 7 p.m. to 12 midnight is 5 hours and 12 midnight to 10 a.m. is 10 hours.)

33. (D) Fraction $= \dfrac{3}{4}$.

$\therefore$ The denominator is 4

34. (C) The distance of the place = 300 miles

So, half of the distance = 300 ÷ 2 = 150 miles

Point, where they stopped from lunch = 10 miles before the half point = 150 − 10 = 140 miles

$\therefore$ Distance they still have to travel to reach the destination = 300 − 140 = 160 miles

35. (C) 826 − 545 + 328

= 281 + 328

= 609

36. (C) Figure P shows $\dfrac{1}{3}$ shaded region

Figure Q shows $\dfrac{3}{4}$ shaded region

Figure R shows $\dfrac{2}{8} = \dfrac{1}{4}$ shaded region

Figure S Shows $\dfrac{2}{6} = \dfrac{1}{3}$ shaded region

$\dfrac{1}{3} = \dfrac{4}{12}; \dfrac{3}{4} = \dfrac{9}{12}; \dfrac{1}{4} = \dfrac{3}{12}$

So, $\dfrac{3}{12} \quad \dfrac{4}{12} \quad \dfrac{9}{12}$ So, $\dfrac{1}{4} \quad \dfrac{1}{3} \quad \dfrac{2}{4}$

37. (C) Total area = 10 cm^2

38. (D) Number of compartments = 4

Number of passengers in each compartment = 72

Total number of passenger = 72 × 4 = 288

39. (B) 2185 − 799 = 1386

40. (A) No. of women in the queue = One forth of

$12 = \dfrac{1}{4} \times 12 = 3$

General Science

41. (B) P, R, S and U are plant, grass, tree and fern are the green plants that can synthesise their own food. Mushroom (Q) and ant (T) depends upon other organisms for their food.

42. (B) Air is a non-living thing, part in the habitat of a bird.

43. (B) Peacock is a bird. It's name has a vegetable pea and male of hen a cock.

44. (A) Lungs are the organs of respiratory system.

45. (B) Moon does not have its own light. It shines due to sun's light.

46. (D) If all the flowers of a mango tree are removed, it will not produce fruits.

47. (C) In addition to sunlight, carbon dioxide and water are required for photosynthesis by green plants.

48. (B) Penguin is a flightless bird.

49. (A) Colour of a bird's beak is not an adaptation to the climate or protection from the predators.

50. (C) A mud pot is made up of clay soil. It contains small pores through which air enters and keeps water cool on a hot summer day.

51. (C) We should walk on the footpath while walking on the road.

52. (B) Ostrich is the fastest running bird.

53. (B) Heart pumps oxygenated blood to all parts of the body.

54. (A) Cucumber is a climber plant.

55. (B) The moon is the natural satellite of the earth. It takes about 29 days to complete one revolution around the earth.

56. (C) Centimeter is the smallest unit to measure the length of the pencil.

57. (C) Rohit drew a red cross on the top of the first-air box. A red cross indicates medical care.

58. (A) Among the given figures, the sun is the hottest. It is a hot mass of gases.

59. (B) Cotton clothes keep Krish comfortable in summer.

60. **(C)** Rat is called a gnawing animal as it eats its food by cutting into small bits.

61. **(D)** In the given food chain, snake is a carnivore that eats rat.

62. **(A)** Though mushrooms are plant like, they are non-green and cannot prepare food on their own. They get their food from dead and decaying matter.

63. **(D)** A microscope is an instrument used to observe microscopic structures and small parts like stomata of a leaf.

64. **(B)** Soil is formed by the weathering of rocks.

65. **(B)** A group of stars is called a constellation

66. **(B)** Grasshopper is a herbivorous animal.

67. **(A)** Collar bone, rib cage, knee cap and backbone are the parts of the skeletal system in a human body.

68. **(D)** Cloth is measured with a ruler.

69. **(C)** A buffalo is a grass eating animal. Only flesh eating animals have sharp tearing teeth to tear food.

70. **(A)** Clouds are formed by the condensation of water vapour.

71. **(C)** Sloping roof allows the rain water to slip off easily

72. **(D)** Celsius is a unit used to measure the temperature of a place or a thing.

73. **(C)** An owl is a nocturnal bird.

74. **(A)** Carrot and radish store food in their roots.

75. **(B)** The given figure shows or represents interdependence between plants and animals.

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