



# UNIFIED COUNCIL

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## STATE LEVEL SCIENCE TALENT SEARCH EXAMINATION - 2013

### SOLUTIONS FOR CLASS : 4

#### Mathematics

1. (C)  $\frac{1 \times 3}{5 \times 3} = \frac{3}{15}$  ;  $\frac{1 \times 5}{3 \times 5} = \frac{5}{15}$

$\frac{4}{15}$  is greater than  $\frac{1}{5}$  and less than  $\frac{1}{3}$ .

2. (B)  $40 \times ₹ 50 = ₹ 2000$

Total cost of a camcorder and a printer  
 $₹ (1099 + 588) = ₹ 1687$

∴ Money remaining with her  
 $= ₹ (2000 - 1687) = ₹ 313$

3. (D)  $\frac{1 \times 3}{3 \times 3} + \frac{2}{9} = \frac{3}{9} + \frac{2}{9} = \frac{5}{9}$

$$\frac{\boxed{4} + 1}{\boxed{4} + 5} = \frac{5}{9}$$

∴ N = 4

4. (C)  $₹ \frac{12488}{8} = ₹ 1561$

5. (D)  $\frac{3}{9} + \frac{6}{9} - \frac{3}{9} = \frac{3+6-3}{9}$   
 $= \frac{6 \div 3}{9 \div 3} = \frac{2}{3}$

6. (B) Om's share of the total amount = ₹ 950

$$\Rightarrow \text{Total amount} = \square \frac{950 \times 6}{2} = ₹ 2850$$

$$\text{Tom's savings} = \frac{4}{6} \times ₹ 2850 = ₹ 1900$$

7. (A)  $\frac{6}{12} \neq \frac{2}{3}$

8. (B)  $\frac{2}{5} \times ₹ 3460 = ₹ 1384$

9. (A)  $36 - 3 = 33$

$$19 + 14 = 33$$

10. (B)  $\frac{1945}{5} = ₹ 389$

11. (D) 1000 tens = 10000

12. (D)  $\frac{1}{4} \times 60 \text{ minutes} = 15 \text{ minutes}$

13. (A)  $\frac{2000}{400} = 5 \text{ bags}$

14. (A) 2 hour 25 minutes + 5 hours 15 minutes  
 $= 7 \text{ hours } 40 \text{ minutes} = 07 \text{ } 40 \text{ hours}$

15. (B)  $\frac{1 \times 6}{3 \times 6} = \frac{6}{18}$

16. (D) 9 hours 22 minutes = 562 minutes

$$\text{Therefore the required time} = \frac{562}{8} \text{ minutes}$$

$$= 70.25 \text{ minutes}$$

$$= 1 \text{ hour } 10 \text{ minutes } 15 \text{ seconds}$$

17. (D)  $48 \div 4 = 12$

$$12 \times 6 = 72$$

18. (D) 1 century = 100 years

$$\therefore 500 \text{ years} = \frac{500}{100} = 5 \text{ centuries}$$

19. (A)  $128 \times 3 = 384 \text{ (Even)}$

20. (D)  $\frac{42}{3} \text{ km} = 14 \text{ km}$

21. (A)  $347 \div 4 = 86 \text{ R } 3$

$$246 \div 5 = 49 \text{ R } 1$$

$$\therefore \text{The required difference} = 3 - 1 = 2$$

22. (A)  $\frac{5600 \text{ m}}{7} = 800 \text{ m}$

23. (B)  $931 \times 4 = 3724$

- The digit in the hundreds place is 7.
24. (D)  $YZ = XY = 6450 \text{ m}$   
 $XZ = 2 \times 6450 \text{ m} = 12900 \text{ m}$   
 $WX = \frac{1}{6} \times 12900 \text{ m}$   
 $= 2150 \text{ m}$   
 $\therefore WZ = 12900 \text{ m} + 2150 \text{ m}$   
 $= 15050 \text{ m}$
25. (D)  
 $3235 + 1424 = 4659$
- 4 6 5 9
- 
- ONES : 9 ones = 9  
TENS: 5 tens = 50  
HUNDREDS: 6 hundreds = 600  
THOUSANDS: 4 thousands = 4000
- The capital words are the place values of the digits.
26. (A)  $24500 > 20545 > 20450 > 2450$   
i.e.,  $P > S > R > Q$
27. (C)  $801 - 113 = 688$   
 $688 + 231 = 919$
28. (C)  $(1200 + 550) \text{ g} = 1750 \text{ g}$
29. (B) If  $\square = 3$  and  $\triangle = 9$ , then  
 $\square \times \triangle = 3 \times 9 = 27$  and  
 $\triangle \div \square = 9 \div 3 = 3$
30. (B)  $1 \text{ l } 250 \text{ ml} + 350 \text{ ml}$   
 $= 1 \text{ l } 600 \text{ ml}$   
 $= 1600 \text{ ml}$   
 $\therefore \frac{3}{4} \times 1600 \text{ ml} = 3 \times 400 \text{ ml} = 1200 \text{ ml}$   
 $= 1 \text{ l } 200 \text{ ml}$
31. (C)  $30 \times 1 \text{ set} = 30 \text{ sets}$   
Each set has 8 crayons.  
So, the number of crayons =  $30 \times 8 = 240$
32. (D)  $P \rightarrow 4200 \text{ ml}$   
 $Q \rightarrow \frac{2}{3} \times 4200 \text{ ml} = 2 \times 1400 \text{ ml} = 2800 \text{ ml}$   
 $R \rightarrow \frac{1}{2} \times 2800 = 1 \times 1400 = 1400 \text{ ml}$   
 $\therefore \text{Total volume} = 8400 \text{ ml}$
33. (B)  $AC + DE + GJ = 2 + 1 + 3 = BH$

34. (B) 2 weeks = 14 days  
 $14 \times 180 \text{ l} = 2520 \text{ l}$   
 $14 \times 210 \text{ l} = 2940 \text{ l}$   
So, he can sell about 2520 l to 2940 l of drinks in 2 weeks.
35. (B) 
$$\begin{array}{r} 5638 \\ - 3449 \\ \hline 21\boxed{8}9 \end{array}$$
36. (D)  $700 \text{ ml} \div 4 = 175 \text{ ml}$
37. (C)  $7406 - 668 = 6738$   
 $6738 \div 6 = 1123$
38. (B) Fractions in (A), (C) and (D) are  $\frac{5}{12}$ ,  $\frac{1}{4}$  and  $\frac{1}{3}$ .  
In option (B),  
Number of squares =  $4 \times 4 = 16$   
Number of shaded regions = 8  
 $\therefore \text{Fraction} = \frac{8}{16} = \frac{1}{2}$   
 $\frac{1}{2} > \frac{5}{12} > \frac{1}{3} > \frac{1}{4}$
39. (C)  $2432 - 2123 = 309$   
 $3987 - 3678 = 309$   
 $1729 - 1421 = 308 \neq 309$   
 $981 - 672 = 309$
40. (A) Mango is the heaviest fruit.
41. (A) Girls =  $4567 - 2897 = 1670$   
 $\therefore \text{The required number} = 2897 - 1670 = 1227$
42. (B)  $93 \times 10000 + 640 \times 100 + 200 \times 10$   
 $= 996000$   
 $= 996 \times 1000$
43. (C) The number is 8 less than a multiple of 35, which is a multiple of 5.  
So, the number will be 2 more than a multiple of 5.  
Take 35 as example :  $35 - 8 = 27$   
Hence, the required remainder is 2.
44. (C)  $71 - 11 = 60$   
 $60 \div 2 = 30$
45. (B) 3 is a factor of 12 and 12 is factor of 60.

**General Science**

46. (C) A venus fly trap plant closes its leaves to trap and digest insects. It responds to the stimulus of food.
47. (A) A stem is a part of the plant that connects the roots to the leaves.
48. (A) All the given animals rabbit, sheep and goat are herbivores.
49. (A) Crocodiles are reptiles. Reptiles reproduce by laying eggs.
50. (D) Vitamins and minerals are called protective foods.
51. (C) Canines are sharp and pointed teeth, used to tear the food.
52. (B) Egg yolk provides food for the developing chick.
53. (B) The first aid is the first help given to a person immediately after an accident.
54. (D) Dried neem leaves are kept between form of clothes to prevent damages from insects.
55. (B) The change of water into water vapour is called evaporation.
56. (B) In the given figure, P is the sun, Q is the earth and R is the moon.
57. (D) The Venus is the second nearest planet to the sun. It is called both morning and evening star as it is seen at dawn or dusk.
58. (B) The solid insoluble substances are separated from the solution by filtration.
59. (C) A liquid (water) on heating, changes to a gas (watervapour). The gas on condensation changes again to a liquid (rain).
60. (A) Pushing a heavy table is difficult. You need more force to move the heavy table. You do more work in moving the table.
61. (C) Organ X is the stomach. It is the muscular part of the digestive system.
62. (B) Woollen clothes provide warmth to the body and are worn in very cold weather.
63. (B) Friction is a force that opposes the movement of objects.
64. (B) Air has volume and occupies space.
65. (B) Air is a mixture of gases.
66. (B) Carbon dioxide gas is essential for photosynthesis.
67. (A) The substance that is to be dissolved in a solvent is called a solute. Salt is a solute.
68. (B) To move things we need force and energy.
69. (D) Insects breathe through air holes called spiracles that are present in its abdomen.
70. (B) The earth is the only planet that has life. It is neither too hot nor too cold. It is the third planet in the solar system. It has water and is surrounded by air containing oxygen.
71. (C) The solar cells change solar energy to electrical energy.
72. (A) Thick coat of fur helps polar bears to keep their body warm.
73. (A) Pine is a conifer. It is a tree found in hill regions.
74. (B) In the given figure, the plant is responding to the sunlight.
75. (B) The correct combination is:  
Cockroach – egg case  
Butterfly – eggs on leaf  
Mosquito – oval eggs in water  
Frog – round eggs in water
76. (D) Snakes, birds and frogs are egg laying animals.
77. (B) The part labelled as 'X' in the given figure is dentine. It is the tough tissue in the tooth.
78. (B) Plants breathe through small pores called stomata.
79. (A) The heat energy from the sunlight causes the evaporation of water from water bodies and the condensation of water vapour to form as rain.
80. (B) The heart is a part of the blood circulatory system. It acts as a pumping organ. It helps to pump blood through blood vessels in our body.
81. (A) The root anchors the plant to the ground. It absorbs water and mineral salts from the soil.
82. (A) Ice melts when heat is absorbed by it.
83. (C) The energy generated from water is called Hydroelectricity.
84. (C) The earth has only one natural satellite that is the moon.
85. (B) Ice is in the solid state.
86. (B) Mould is a fungus, which grows on dead plants and animals.
87. (B) A fish is an egg laying animal and a cat gives birth to its young one.
88. (B) The pathway of energy is from Grass → Grasshopper → Frog → Snake
89. (C) 'X' in the given figure are aerial roots or prop roots. Aerial roots act as pillars and give support to the branches.
90. (C) In sugarcane, food is stored in the stem.