

Section : 1 - Aptitude and Logical Reasoning

- A total of nine cards consisting of four Kings, four Queens and one Joker were there with Sujith, Ajay and Sanjay. Ajay had two cards, Sujith had three cards and Sanjay had four cards. The man with the most cards did not have the Joker. Everyone has atleast one King. Who can have three queens ?

(a) Ajay (b) Sanjay (c) Sujith (d) Sanjay or Sujith
- Neeraj walked 70 meters in the East before turning to his right. He walked 10 meters before turning to his right again and walked 10 metres from this point. From there he walked 90 meters to the North. How far was he from his starting point ?

(a) 100 meters (b) 140 meters (c) 80 meters (d) 260 meters
- If P \$ Q means P is the father of Q, P # Q means P is the mother of Q and P * Q means P is the sister of Q. Then how is Q related to N if N # L \$ P * Q

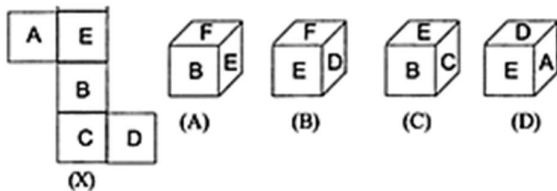
(a) Grandson (b) Granddaughter (c) Nephew (d) Data inadequate
- Pointing towards a man in the photograph, Archana said. "He is the son of the only son of my grandmother." How is the man related to Archana ?

(a) Cousin (b) Nephew (c) Brother (d) Son
- How many times are the hands of a clock at right angle in a day ?

(a) 22 (b) 24 (c) 44 (d) 48

Section : 2 - Mathematics

- Select from the alternative, the box that can be formed by folding the sheet shown in figure (X)



- (a) A only (b) B only (c) A and C only (d) A, B, C and D
- The ages of X and Y are in the ratio 1: 2. After 8 years, their ages will be in the ratio 3 : 4. The sum of their present ages is

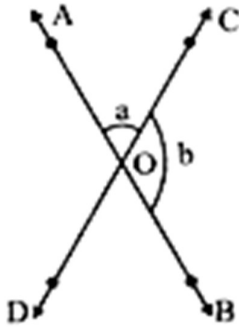
(a) 4 years (b) 24 years (c) 8 years (d) 12 years

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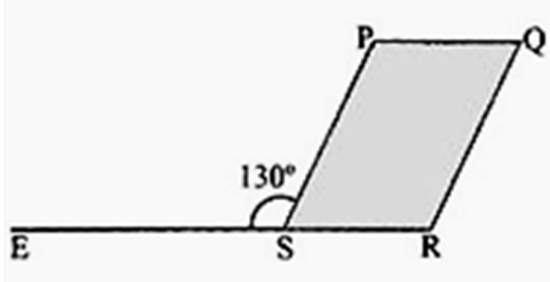
8. A person travelled $\frac{5^{\text{th}}}{8}$ of the distance by train, $\frac{1^{\text{th}}}{4}$ by bus and the remaining 15 km by boat. Find the total distance travelled by him.
 (a) 90 km (b) 120 km (c) 150 km (d) 180 km

9. What is the value of the expression $\left[\frac{14}{3}\left(2\frac{3}{7}-3\frac{1}{6}+1\frac{2}{3}\right)\right]$?
 (a) $1\frac{1}{2}$ (b) $2\frac{1}{3}$ (c) $3\frac{1}{3}$ (d) $4\frac{1}{3}$

10. In the figure, lines AB and CD intersect at point O. If $a : b = 2 : 3$, then what is the measure of $\angle BOD$



- (a) 54° (b) 72° (c) 100° (d) 105°
11. In the given figure, sides RS of parallelogram PQRS is produce to point E.

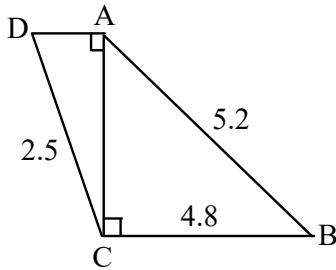


What is the measure of angle PQR?

- (a) 50° (b) 180° (c) 130° (d) 90°

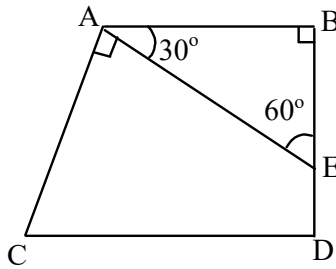
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12. What is the perimeter of the given figure?



- (a) 12 (b) 14 (c) 16.6 (d) 18.2

13. $AB \parallel CD$ in the figure as shown below, then $\angle ACD$ is equal to



- (a) 80° (b) 40° (c) 60° (d) 85°

14. The value $\frac{\left(-\frac{1}{2}\right)^5}{\left(-\frac{1}{2}\right)^4} \div \frac{\left(-\frac{1}{8}\right)}{\left(-\frac{1}{4}\right)}$ is

- (a) 1 (b) 2 (c) 3 (d) -1

15. Simplify the following expression, $x(y - z) + y(z - x) + z(x - y)$

- (a) 0 (b) $2y(z - x)$ (c) $2x(z - y)$ (d) $2z(x - y)$

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Section : 3 - Science

16. $0.01 \text{ N} = \underline{\hspace{2cm}}$ dyne
 (a) 10^5 (b) 10^4 (c) 10^3 (d) 10^{-3}
17. Which of the following is not a vector quantity?
 (a) Momentum (b) Impulse (c) Pressure (d) Force
18. In a hydroelectric dam the potential energy of water changes to
 (a) Electric energy only
 (b) Kinetic energy only
 (c) First kinetic energy and then electric energy
 (d) First electric energy and then kinetic energy
19. High and low pitch of sound does not depend upon
 (a) Frequency (b) Amplitude (c) Wavelength (d) Both b and c
20. Pick odd one out.
 (a) joule (b) newton x metre (c) erg (d) newton x metre⁻¹
21. A racing toy car has a uniform acceleration of 0.8m/s^2 . What distance will it cover in 10 s after start?
 (a) 40m (b) 4.0m (c) 0.04m (d) 400m
22. Manish classified following which two planets as gas giants?
 (a) Venus and Mercury (b) Saturn and Mars
 (c) Saturn and Jupiter (d) Jupiter and Mars
23. Decomposition of an electrolyte on passing electricity is called
 (a) Charging (b) Electrolysis
 (c) Electrolytic refining (d) None of these
24. An object is vibrating at 80 Hz. What is its time period?
 (a) 0.0125 sec (b) 0.125 sec (c) 1.25 sec (d) 0.025 sec
25. If the area of a modelled object is more, then the pressure exerted on a surface by it will be
 (a) more (b) unchanged (c) less (d) all of these

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26. A liquid is injected into the skin of human beings by an ant when it bites. Which one of the following can neutralize the effect of the ant bite?
(a) An acid (b) Water (c) Base (d) All of the above
27. The long woollen fibres are twisted into thick yarn called wool. This process is known as:
(a) Sorting (b) Dyeing (c) Spinning (d) Combing
28. Which one of the following is a combination reaction?
(a) $2\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$ (b) $\text{N}_2 + 3\text{H}_2 \rightarrow 2\text{NH}_3$
(c) $2\text{H}_2\text{O} \rightarrow 2\text{H}_2 + \text{O}_2$ (d) Both [A] and [B]
29. Raghu in his craft class is making beads by using POP (plaster of paris). The setting of beads by using water is a/an:
(a) Physical change (b) Reversible change
(c) Irreversible change (d) No change
30. Which one of the following is the upper most layer of atmosphere?
(a) Troposphere (b) Stratosphere (c) Mesosphere (d) Exosphere
31. The original reactants hydrogen and oxygen gases can be obtained from water by the process of
(a) Electrolysis (b) Hydrolysis
(c) Thermal dissociation (d) Efflorescence
32. Galvanization is a process used to prevent the rusting of which of the following?
(a) Aluminium (b) Zinc (c) Iron (d) Copper
33. Consider the following two statements:
Statement A: New substances are not formed after a chemical change.
Statement B: New substances are formed after a physical change.
Which of the following is correct with respect to the above statements?
(a) Statement A is false and Statement B is true.
(b) Both, Statement A and Statement B are true.
(c) Both, Statement A and Statement B are false.
(d) Statement B is false and Statement A is true.

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34. Which of the following are correctly matched?
1. Solvent - dissolves the substance.
2. Solute - component that is dissolved
3. Tincture of iodine - solution of iodine in water
(a) 1 and 2 (b) 2 and 3 (c) 1 and 3 (d) 1, 2 and 3
35. Which of the following are correctly matched?
1. Electron - J.J Thomson
2. Proton - Dalton
3. Neutron - James Chadwick
(a) 1 and 2 (b) 2 and 3 (c) 1 and 3 (d) 1, 2 and 3
36. Structural and functional unit of kidney
(a) Neuron (b) Nephron (c) Tubule (d) Hepatic lobules
37. Final product of protein digestion is
(a) Glucose (b) Fats (c) Glycerol (d) Amino acid
38. _____ unites to form veins
(a) Capillaries (b) Artery (c) Arteriole (d) None of these
39. Cells of the squamous epithelial is
(a) Cube (b) Tall with elongated nuclei
(c) Flat plate-like (d) Ciliated cells
40. Spirogyra reproduces asexually by
(a) Fragmentation (b) Spore formation (c) Budding (d) Cutting
41. When breakdown of glucose occurs with the use of oxygen, it is called
(a) anaerobic respiration (b) regular respiration
(c) aerobic respiration (d) all of these
42. The invertebrates do not have _____.
(a) Joint legs (b) Scales (c) Exoskeleton (d) Backbone
43. Which animal breath through skin
(a) Earthworm (b) Fish (c) Human (d) Birds

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44. Central nervous system (CNS) consist of
(a) Brain (b) Spinal cord (c) Nerves (d) Both a and b
45. Birds are adapted to fly because of
(a) Light bones (b) Feathers and wings
(c) Streamlined body (d) All of these

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