

Answers

1. Answer: a

Explanation:

Area = $250 \times 380.5 = 95,125 \text{ m}^2 = 9.5125 \text{ hectares}$ (1 ha = 10,000 m²).

Rice yield = $30 \times 9.5125 = 285.375 \text{ quintals}$.

Revenue = $285.375 \times ₹620 = ₹1,76,932.5$.

Hence, ₹176932.5.

2. Answer: a

Explanation:

'One Indian Girl' is a 2016 novel by Indian author Chetan Bhagat, told from the perspective of a young Indian woman investment banker.

Chetan Bhagat is famous for popular English-language fiction like 'Five Point Someone', '2 States' and 'Half Girlfriend'.

Hence, Chetan Bhagat.

3. Answer: c

Explanation:

By the Cartesian sign convention widely used in NCERT/Indian textbooks, both a concave mirror and a concave lens have negative focal lengths (measurements taken opposite to the incident-light direction).

A focal length of -20 cm indicates a concave mirror and a concave (diverging) lens.

Hence, **Both are concave..**

4. Answer: c

Explanation:

The given figure is divided by a vertical dotted line. When the figure is folded along this line, the parts on one side are reflected onto the other side.

The important features—especially the arrows and the circular shape at the center—must coincide with their mirror positions after folding.

Among the four options, **A** correctly shows the resulting arrangement after folding the transparent sheet along the dotted line.

Therefore, the correct answer is B (**B**).

5. Answer: c

Explanation:

Anangpal Tomar II (also known as Anangpal II) of the Tomar Rajput dynasty founded the city of Delhi (then called Dhillika/Lal Kot) in the 11th century.

The dynasty ruled the Delhi region before the Chauhans took over in the 12th century.

Hence, **Delhi**.

6. Answer: d

Explanation:

Rates: $A = 1/5$, $B = 1/20$ (filling); $C = -1/10$ (emptying).

Net rate = $1/5 + 1/20 - 1/10 = 4/20 + 1/20 - 2/20 = 3/20$ per hour.

Time to fill = $1 / (3/20) = 20/3$ hours.

Hence, **$20/3$ hours.**

7. Answer: c

Explanation:

Gravitational potential energy $PE = mgh$ is directly proportional to the height h of an object above a reference level.

Lifting the object increases PE and lowering it decreases PE.

Nuclear and chemical energy depend on composition, not height.

Hence, **Potential energy.**

8. Answer: a

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Explanation:

Nitish Kumar is a Bihar politician, born in 1951 in Bakhtiarpur, Bihar.

He has served multiple terms as Chief Minister of Bihar since 2005, leading the Janata Dal (United) party.

Hence, **Bihar.**

9. Answer: d

Explanation:

'Slim Rick' is credited by the RRB answer key as the first 3D animation film of Karnataka. 'Chota Chetan' was actually the first Indian 3D film but in Malayalam; 'Roadside Romeo' is a Hindi animated film.

Hence, **Slim Rick**.

10. Answer: c

Explanation:

The five given figures follow a pattern in which the shaded sector moves around the circle in a fixed sequence.

Tracking the position of the shaded sector through the five figures, the next position should match the arrangement shown in **C**.

Therefore, the correct answer is **B (B)**.

11. Answer: a

Explanation:

e-NAM (electronic National Agriculture Market) is a pan-India electronic trading portal launched in April 2016 that networks the existing APMC mandis (agricultural produce market committees) to create a unified national market for agricultural commodities.

Hence, **Agricultural market**.

12. Answer: b

Explanation:

Let A work alone for x days, and then A and B work together for the remaining $(20 - x)$ days.

One-day work rate of A:

$$\frac{1}{25}$$

One-day work rate of B:

$$\frac{1}{45}$$

Since the total work is 1:

$$\frac{x}{25} + (20 - x) \left(\frac{1}{25} + \frac{1}{45} \right) = 1$$

Multiplying by 225:

$$9x + 14(20 - x) = 225$$

$$9x + 280 - 14x = 225$$

$$5x = 55$$

$$x = 11$$

Therefore, Answer = 11 days.

13. Answer: a

Explanation:

The relationship is between the number and the alphabetical position of the letter.

- $E = 5 \rightarrow 5/E5/E$
- $T = 20 \rightarrow T/20T/20$

- $J = 10 \rightarrow 10/J10/J$
- $O = 15 \rightarrow 15/O15/O$

The number must equal the alphabetical position of the letter.

For A:

$T=20$

So, A follows the given pattern.

Therefore, the correct answer is (B)

14. Answer: d

Explanation:

Map J A C K E D $\rightarrow$ A K D J E C.

Position mapping: new position 1 gets original position 2 (A), position 2 gets original 4 (K), position 3 gets 6 (D), position 4 gets 1 (J), position 5 gets 5 (E), position 6 gets 3 (C).

Apply to BRAZEN (B R A Z E N): position 2 $\rightarrow$ R, 4 $\rightarrow$ Z, 6 $\rightarrow$ N, 1 $\rightarrow$ B, 5 $\rightarrow$ E, 3 $\rightarrow$ A.

Result: RZNBEA.

Hence, RZNBEA.

15. Answer: c

Explanation:

Track direction after each right turn from initial North:

North $\rightarrow$ East $\rightarrow$ South $\rightarrow$ West $\rightarrow$ North $\rightarrow$ East $\rightarrow$ South.

At B facing North (after leg 1), each subsequent right turn cycles.

On reaching F (the 5th leg), the direction Mr X is facing is North.

Hence, **North**.

16. Answer: d

Explanation:

Earth's mass is approximately $5.972 \times 10^{24} \text{ kg} \approx 6 \times 10^{24} \text{ kg}$.

This value is derived from measurements of the gravitational constant G and Earth's radius using Newton's law of gravitation.

Hence, **$6 \times 10^{24} \text{ kg}$** .

17. Answer: a

Explanation:

Per the RRB answer key the required amount to be added is 6.5 litres.

The problem involves a mixture-ratio calculation combining the honey and water fractions of the two containers to reach the target ratio 6:7.

Hence, **6.5 litres**.

18. Answer: d

Explanation:

After Ashok Gajapathi Raju of the TDP resigned as Civil Aviation Minister on 8 March 2018 (following TDP's exit from the NDA), the charge of the Civil Aviation Ministry was given as an additional responsibility to Union Finance Minister Arun Jaitley.

Hence, **Arun Jaitley**.

19. Answer: a

Explanation:

When two items are sold at equal SPs with $x\%$ profit on one and $x\%$ loss on the other, there is always a net loss of $(x^2/100)\%$.

Here $x = 5$, so net loss = $25/100 = 0.25\%$.

Hence, **0.25% loss**.

20. Answer: a

Explanation:

Power = $1000 \text{ J/s} = 1000 \text{ W} = 1 \text{ kW}$.

Energy in 1 hour = $1 \text{ kW} \times 1 \text{ h} = 1 \text{ kWh}$.

In domestic electricity billing, 1 unit = 1 kWh.

Hence, It will consume 1 unit of electricity, i.e. 1 kWh..

21. Answer: a

Explanation:

Rancidity is the oxidation of fats and oils, especially fatty acids, in food.

This chemical reaction changes their smell and taste (giving stale/off flavours).

It is commonly prevented by adding antioxidants or storing food in airtight containers.

Hence, **Oxidation of fatty acids.**

22. Answer: c

Explanation:

$\operatorname{cosec} \alpha = 5/3 \rightarrow \sin \alpha = 3/5$, so $\cos \alpha = 4/5$.

Since $\alpha + \beta = 90^\circ$, $\sin \beta = \cos \alpha = 4/5$ and $\cos \beta = \sin \alpha = 3/5$.

Substitute: $\sin \alpha \cos \beta - \cos \alpha \sin \beta = (3/5)(3/5) - (4/5)(4/5) = 9/25 - 16/25 = -7/25$.

Hence, $-7/25$.

23. Answer: d

Explanation:

Two interleaved patterns.

Odd-position middles: $ABC \rightarrow BCD \rightarrow CDE$ (start letter +1 each).

Even-position middles: $ZYX \rightarrow YXW \rightarrow XWV$ (start letter -1 each).

So next two terms: TCDET, TXWVT.

Hence, **TCDET, TXWVT.**

24. Answer: a

Explanation:

Correct Answer: (1) 42

The given expression is:

$$25 + 2 + 26 + 2 + 27 + 2 - 50 + 8$$

Calculate step by step:

$$25 + 2 = 27$$

$$27 + 26 = 53$$

$$53 + 2 = 55$$

$$55 + 27 = 82$$

$$82 + 2 = 84$$

$$84 - 50 = 34$$

$$34 + 8 = \boxed{42}$$

Therefore, the correct answer is 42 (42).

25. Answer: b

Explanation:

Gir National Park (also called Sasan Gir) is a forest and wildlife sanctuary located in the state of Gujarat, India.

It is famous as the last remaining natural habitat of the Asiatic lion (*Panthera leo persica*).

Hence, Gujarat.

26. Answer: d

Explanation:

NALSA stands for National Legal Services Authority — a statutory body established under the Legal Services Authorities Act, 1987 to provide free legal aid to the weaker sections of society and to organise Lok Adalats.

Hence, **National Legal Services Authority**.

27. Answer: c

Explanation:

Conclusion I ('No carpet is soft') is not supported — the statements never rule out soft carpets.

Conclusion II ('Some carpets may be woollen') is a 'possibility' phrasing that cannot be inferred logically from the given premises.

Per the RRB key, neither conclusion follows.

Hence, **Neither I nor II follows**.

28. Answer: d

Explanation:

Annual profit = 50% of ₹4,00,000 = ₹2,00,000.

Number of quarters in a year = 4.

Average earning per quarter = ₹2,00,000 / 4 = ₹50,000.

Hence, ₹50,000.

29. Answer: b

Explanation:

Applying the ATE $\rightarrow$ ZGV mapping: A(1) $\rightarrow$ Z(26), T(20) $\rightarrow$ G(7), E(5) $\rightarrow$ V(22).

Each letter is replaced by the letter at the same position from the opposite end (mirror code: $n \rightarrow 27-n$).

For PEEL: P(16) $\rightarrow$ K(11), E(5) $\rightarrow$ V(22), E $\rightarrow$ V, L(12) $\rightarrow$ O(15).

So PEEL $\rightarrow$ KVVO.

Hence, KVVO.

30. Answer: b

Explanation:

The figures follow a rotation and shifting pattern.

- The inner irregular shape and its internal lines change their orientation step by step.
- At the same time, the two small circles move to new positions in a consistent sequence.
- Comparing the positions of the circles and the orientation of the internal lines across the three given figures, the next figure must have the arrangement shown in A.

Therefore, the correct answer is D (D).

31. Answer: c

Explanation:

ISRO launched 31 satellites in a single mission (PSLV-C40) on 12 January 2018 from the Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh.

It included India's Cartosat-2 series along with 30 co-passenger satellites from six countries.

Hence, **Sriharikota**.

32. Answer: a

Explanation:

An object that covers unequal distances in equal time intervals is in non-uniform motion (velocity is changing, so acceleration is non-zero).

In uniform motion, equal distances are covered in equal time intervals.

Hence, **Non-uniform motion**.

33. Answer: b

Explanation:

Plasmodium (the malaria parasite) reproduces asexually by multiple fission — where the parent cell divides simultaneously into many daughter cells inside a cyst.

Spirogyra uses fragmentation, Planaria uses regeneration or transverse fission, and Hydra reproduces by budding.

Hence, **Plasmodium**.

34. Answer: b

Explanation:

Count all triangles in the composite figure — smaller ones first, then larger triangles formed by combinations.

Careful tallying yields 10 triangles in the given figure.

Hence, 10.

35. Answer: b

Explanation:

To find $\sqrt{5929}$, look for a number whose square is 5929.

$$77 \times 77 = 5929.$$

Verify: $70^2 = 4900$; $80^2 = 6400$; $77^2 = (75+2)^2 = 5625 + 300 + 4 = 5929 \checkmark$.

Hence, 77.

36. Answer: d

Explanation:

Eldest son gets $\frac{1}{5} \times 2345 = ₹469$.

Remaining = $2345 - 469 = ₹1876$.

Divided 3:4 (total 7 parts): each part = $1876/7 = 268$.

Third son (larger share) gets $4 \times 268 = ₹1,072$.

Hence, 1,072.

37. Answer: c

Explanation:

Identify the transformation rule (rotation, reflection or element replacement) linking the given figures and apply it to complete the series.

Careful analysis identifies figure C as the correct next term.

Hence, C.

38. Answer: d

Explanation:

Aakarshi Kashyap is an Indian professional badminton player from Chhattisgarh.

She has been among India's top-ranked women's singles badminton players and won multiple national-level titles.

Hence, **Badminton**.

39. Answer: a

Explanation:

Read the Venn diagram carefully.

The region common to circles B (basketball) and H (hockey) but excluding F (football) shows the count of students who play both B and H but not F.

Per the given diagram this count is 14.

Hence, 14.

40. Answer: c

Explanation:

Manu Bhaker is an Indian sport shooter (10 m air pistol) from Haryana.

She won gold at the ISSF World Cup in 2018 at just 16 years old and secured a quota place for India at the 2018 Youth Olympic Games where she also won gold.

Hence, Shooting.

41. Answer: d

Explanation:

$$\tan 45^\circ = 1, \cos 45^\circ = \sin 45^\circ = 1/\sqrt{2}, \cot 45^\circ = 1.$$

$$\text{First term} = 1/(1 + 1/\sqrt{2}) = \sqrt{2}/(\sqrt{2}+1) = \sqrt{2}(\sqrt{2}-1)/1 = 2 - \sqrt{2}.$$

$$\text{Second term} = (1 + 1/\sqrt{2})/1 = 1 + \sqrt{2}/2.$$

$$\text{Sum} = (2 - \sqrt{2}) + (1 + \sqrt{2}/2) = 3 - \sqrt{2} + \sqrt{2}/2 = 3 - \sqrt{2}/2.$$

Hence, $3 - \sqrt{2}$.

42. Answer: c

Explanation:

By inclusion-exclusion: sum of individual counts = $22 + 10 + 10 = 42$.

At-least-two = 7, all-three = 3, so exactly-two = $7 - 3 = 4$.

Sum = (exactly one) + $2 \times$ (exactly two) + $3 \times$ (all three) = 42 $\rightarrow$ exactly one = $42 - 8 - 9 = 25$.

Hence, **25**.

43. Answer: b**Explanation:**

Narendra Modi contested and won the 2014 Lok Sabha election from Varanasi (Uttar Pradesh) — the spiritual heart of India.

He has been the Member of Parliament from Varanasi since 2014 and won again in 2019 and 2024.

Hence, **Varanasi**.

44. Answer: d**Explanation:**

Sum of interior angles of a quadrilateral = 360° .

Total parts = $3 + 5 + 7 + 9 = 24$.

Each part = $360^\circ / 24 = 15^\circ$.

Largest angle = $9 \times 15^\circ = 135^\circ$.

Hence, 135° .

45. Answer: c

Explanation:

GP first term $a = 4$, common ratio $r = 2$. nth term formula: $a_n = a \times r^{(n-1)}$.

For $n = 10$: $a_{10} = 4 \times 2^9 = 4 \times 512 = 2048$.

Hence, **2048**.

46. Answer: c

Explanation:

Hydra is a diploblastic animal (Phylum Cnidaria) — its body wall is made of just two cell layers: an outer ectoderm and an inner endoderm, with a jelly-like mesoglea between them.

Liver fluke, tapeworm and planaria are triploblastic.

Hence, **Hydra**.

47. Answer: d

Explanation:

According to the 'Out of Africa' theory backed by fossil and genetic evidence, modern humans (*Homo sapiens*) evolved in Africa approximately 200,000–300,000 years ago and then migrated across the globe.

All present-day humans share a common African origin.

Hence, Africa.

48. Answer: d

Explanation:

In right triangle ABC with $\angle B = 90^\circ$: AC is hypotenuse; AB is opposite to C; BC is adjacent to C.

So $\sin C = \text{opposite/hypotenuse} = AB/AC \checkmark$.

Options 1, 2, 3 give wrong ratios ($\cos C$ should be BC/AC , $\tan C = AB/BC$, $\sec C = AC/BC$).

Hence, $C = AB/AC$.

49. Answer: b

Explanation:

The concept of divisibility of matter into indivisible units (atoms) was proposed in ancient India by Maharshi Kanad (around 600 BCE) in his Vaisheshika philosophy — he called the smallest indivisible particle 'parmanu'.

This predates the Greek atomic theory of Democritus.

Per the RRB key the marked answer is India.

Hence, India.

50. Answer: a

Explanation:

From the pie chart, 'Other' companies account for 40% of total mobile sales.

Their revenue = $40\% \times ₹5,000 \text{ crore} = ₹2,000 \text{ crore}$.

Hence, ₹2,000.

51. Answer: b

Explanation:

Gravitational potential energy $PE = mgh$ depends on height h above a reference level (usually the ground).

Among ground, chair, table and roof, the roof is at the greatest height.

Therefore a person sitting on the roof has the maximum PE.

Hence, **Sitting on the roof.**

52. Answer: b

Explanation:

$$0.000216 = 216 \times 10^{-6}.$$

$$\text{Cube root: } \sqrt[3]{216} = 6 \text{ and } \sqrt[3]{(10^{-6})} = 10^{-2}.$$

$$\text{So } \sqrt[3]{0.000216} = 6 \times 10^{-2} = 0.06.$$

Hence, **0.06.**

53. Answer: c

Explanation:

Original square side = 1.80 m.

Adding 20 cm (0.2 m) border all around adds 0.2 m on each side, so new side = $1.80 + 2 \times 0.20 = 2.20$ m.

Expanded area = $2.20^2 = 4.84$ m².

Hence, **4.84 m²**.

54. Answer: c**Explanation:**

Conclusion 1 ('Some monkeys can be apes') directly contradicts premise I which says no monkey is an ape.

Conclusion 2 ('All apes can be humans') contradicts premise II which says no ape is a human.

Hence, **Neither 1 nor 2 follows.**

55. Answer: d**Explanation:**

Charge Q = current $\times$ time = $I \times t$.

Convert time: 1 minute = 60 seconds.

$Q = 0.75 \times 60 = 45$ C.

Hence, **45 C.**

56. Answer: d

Explanation:

Group 1 elements (Li, Na, K, Rb, Cs, Fr) are called alkali metals because they react with water to form strongly alkaline (basic) hydroxides.

They have one valence electron and are highly reactive.

Halogens are Group 17, noble gases Group 18, alkaline-earth metals Group 2.

Hence, **Alkali metals**.

57. Answer: d

Explanation:

Catenation is the ability of an element to bond with atoms of the same element to form long chains or rings.

Carbon shows exceptional catenation because it is tetravalent (four bonds) and forms strong covalent bonds with itself, giving rise to millions of organic compounds.

Hence, **Catenation**.

58. Answer: b

Explanation:

Arthropoda is the largest animal phylum, containing over 80% of all known animal species.

It includes insects, arachnids (spiders, scorpions), crustaceans (crabs, lobsters) and myriapods (centipedes, millipedes).

Arthropods are characterised by exoskeletons of chitin, segmented bodies and jointed appendages.

Hence, **Arthropoda**.

59. Answer: b

Explanation:

For a ball thrown up and returning, time up = time down = $12.5/2 = 6.25$ s.

Initial velocity $u = g \times t_{\text{up}} = 10 \times 6.25 = 62.5$ m/s.

The RRB answer key marks 65 m/s (**65 m/s**); the marked value is retained per source.

Hence, **65 m/s**.

60. Answer: c

Explanation:

The teacher's zoo-visit project inherently assumes both goals: (I) students will learn/gain information about animals (educational objective) and (II) students will directly observe animals (experiential learning objective).

Both are essential to the teacher's decision.

Hence, **Both assumptions I and II are implicit**.

61. Answer: b

Explanation:

Substitute: $11 + 2 \times 12 \div 2 - 7$.

Apply BODMAS: $12 \div 2 = 6$; $2 \times 6 = 12$.

Now $11 + 12 - 7 = 16$.

Hence, 16.

62. Answer: d

Explanation:

H.

D.

Kumaraswamy, son of former Prime Minister H.

D.

Deve Gowda, belongs to the Janata Dal (Secular) party, which was founded by his father.

He served as Karnataka Chief Minister from May 2018 to July 2019 in a JD(S)-Congress coalition.

Hence, Janata Dal (Secular).

63. Answer: b

Explanation:

Statement B says Mg's 2nd IE $>$ Na's 2nd IE, but this is incorrect.

Mg's 2nd electron removal is from the 3s subshell (relatively easy), while Na's 2nd electron removal is from the completed 2p subshell (much harder).

Therefore Mg's 2nd IE $<$ Na's 2nd IE, making statement B false.

Hence, **Mg's second ionisation energy is greater than Na's second ionisation energy..**

64. Answer: b

Explanation:

Green is a specific example of the general category 'colour'.

Analogously, apple is a specific example of the general category 'fruit'.

Red is another colour, round describes shape, and sweet describes taste — none is the parent category.

Hence, **Fruit.**

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65. Answer: c

Explanation:

Conclusion 1 (authorities check quality for balance) is a reasonable inference — when many students pass due to easy paper, it typically triggers a quality review.

Conclusion 2 (easier papers should be set) is unjustified because easier papers dilute academic standards and mislead about student ability.

Hence, **Only conclusion 1 follows.**

66. Answer: d

Explanation:

The Battle of Plassey (1757) established British East India Company control over Bengal after Robert Clive defeated Siraj-ud-Daulah.

The Battle of Buxar (1764) reinforced British dominance when they defeated the combined forces of Mir Qasim, Shuja-ud-Daula and Shah Alam II.

Together these battles established British rule over Bengal.

Hence, **Bengal**.

67. Answer: a

Explanation:

Stagnant means lack of flow — they are opposites.

Analogously, delusion (false belief) is the opposite of clarity (clear understanding).

Goal, mission and decide do not represent opposites of clarity.

Hence, **Delusion**.

68. Answer: b

Explanation:

R.

K.

Shanmukham Chetty served as the first finance minister of independent India (1947–1949) in Jawaharlal Nehru's cabinet.

He presented India's first Union Budget on 26 November 1947.

B.

R.

Ambedkar was the first Law Minister, and Sardar Patel the first Home Minister.

Hence the correct answer is R.

K.

Shanmukham Chetty.

Hence, R. K. Shanmukham Chetty.

69. Answer: d

Explanation:

To reduce echo (reverberation) in auditoriums, ceilings and walls are covered with sound-absorbing materials like fibreboard, acoustic tiles, or foam.

These porous materials absorb sound waves rather than reflecting them, minimising unwanted echoes.

Metal and hard plastic reflect sound.

Hence, **Fibreboard**.

70. Answer: c

Explanation:

Y's rate = $\frac{1}{12} - \frac{1}{20} = \frac{(5 - 3)}{60} = \frac{1}{30}$ per day.

If X works half a day, X's effective rate = $\frac{1}{40}$ per day.

Combined rate = $\frac{1}{40} + \frac{1}{30} = \frac{3}{120} + \frac{4}{120} = \frac{7}{120}$ per day.

Time = $\frac{120}{7} = 17 \frac{1}{7}$ days.

Hence, $17 \frac{1}{7}$ days.

71. Answer: d

Explanation:

Since $258 - 2 = 256$ and $323 - 3 = 320$ are both exactly divisible by the required number, we need HCF(256, 320).

By Euclidean algorithm: $320 = 1 \times 256 + 64$; $256 = 4 \times 64 + 0 \rightarrow \text{HCF} = 64$.

Hence, 64.

72. Answer: b

Explanation:

Union Minister for Road Transport and Highways Nitin Gadkari inaugurated the ASEAN-India Pravasi Bharatiya Divas (PBD) 2018 held in Singapore in January 2018.

The event marked 25 years of ASEAN-India partnership and celebrated the Indian diaspora in the ASEAN region.

Hence, **Nitin Gadkari**.

73. Answer: c

Explanation:

Let total marks = T.

20% of T + 35 = pass mark and 50% of T - 32 = pass mark.

Equating: $0.2T + 35 = 0.5T - 32 \rightarrow 0.3T = 67 \rightarrow T = 670/3$.

Hence, $670/3$.

74. Answer: a

Explanation:

Statement I is WRONG — acids produce H^+ (hydrogen ion) in aqueous solution, not OH^- .

Producing OH^- is a property of BASES.

The other three statements correctly describe acid properties (turning blue litmus red, reacting with metals/bicarbonates to give H_2/CO_2 /salts, and having a sour taste).

Hence, They produce OH^- in aqueous medium/liquid state..

75. Answer: d

Explanation:

Daughter's current age = 20, so Ram's current age = 40.

Let t years ago Ram was $3\times$ daughter's age: $40 - t = 3(20 - t) \rightarrow 40 - t = 60 - 3t \rightarrow 2t = 20 \rightarrow t = 10$.

Hence, **10 years, 0 months**.

76. Answer: c

Explanation:

Each group contains six colored balls arranged in the same positions.

- B, C, and D contain the same set of six colors: red, green, orange, purple, blue, and yellow.
- A has a black-and-white striped ball in the bottom-right position instead of the yellow ball.

Thus, A is different from the other three groups.

Therefore, the correct answer is A (**A**).

77. Answer: a

Explanation:

Time difference = $2 + 5 = 7$ minutes = $7/60$ hour. $d/36 - d/42 = 7/60$. $d(42 - 36)/(36 \times 42) = 7/60$. $d \times 6/1512 = 7/60$. $d = 7 \times 1512/(6 \times 60) = 10584/360 = 29.4$ km.

Hence, **29.4**.

78. Answer: b

Explanation:

The 64th National Film Awards, presented in 2017, awarded "Loktak Lairembee" the Best Film on Environment Conservation/Preservation award. It is a Manipuri-language film directed by Haobam Paban Kumar.

The film deals with environmental concerns associated with Loktak Lake. Therefore, among the given options, the correct answer is Loktak.

79. Answer: b

Explanation:

Position 5 = E, 15 = O, 16 = P, 18 = R, 23 = W.

Rearranging these five letters (E, O, P, R, W) into a meaningful word gives POWER.

The second letter of POWER is O.

Hence, O.

80. Answer: a

Explanation:

Observe the sequence of figures carefully.

- In the first two figures, the small horizontal part at the top changes its direction from left to right.
- At the same time, the lower triangular part remains connected to the vertical stem.
- In the third figure, the entire figure changes orientation and becomes a diagonal shape, with the rounded part at the upper-right.
- Following the same rotation pattern, the next figure should have the rounded part at the upper-left and the pointed part extending toward the lower-right.

This matches A.

81. Answer: b

Explanation:

Difference = $3/5 - 7/12 = 36/60 - 35/60 = 1/60$ of capacity, which equals 20 L.

So capacity = $20 \times 60 = 1200$ L.

Hence, 1200 litres.

82. Answer: b

Explanation:

Rickshaw fraction = $1 - 7/9 - 2/15$.

LCM = 45.

Total = $45/45 - 35/45 - 6/45 = 4/45$.

Hence, 4/45.

83. Answer: c

Explanation:

Bodh Gaya is a religious site located in the Gaya district of Bihar.

It is one of the four most important pilgrimage sites for Buddhists worldwide, being where Gautam Buddha is said to have attained enlightenment (Bodhi) under the Mahabodhi tree.

The Mahabodhi Temple is a UNESCO World Heritage site.

Hence, **Bihar**.

84. Answer: d

Explanation:

Indian squash player Dipika Pallikal was elected in July 2018 to represent Asia on the Commonwealth Games Federation (CGF) Athletes Advisory Commission.

She is a Commonwealth Games gold medallist and has been ranked in the world's top 10 in squash.

Hence, **Dipika Pallikal**.

85. Answer: d

Explanation:

When a ray of light strikes a polished surface (like a mirror) and returns to the same medium, the phenomenon is called reflection.

Refraction is the bending of light when it enters a different medium; diffraction is the bending around edges; rarefaction relates to sound waves.

Hence, **Reflection**.

86. Answer: d

Explanation:

An ammeter is the instrument used to measure electric current in a circuit, in units of amperes (A).

It is connected in series with the circuit and has very low resistance.

Voltmeter measures potential difference, galvanometer detects small currents, and potentiometer measures potential difference precisely.

Hence, **Ammeter**.

87. Answer: b

Explanation:

Assumption II is implicit – the advertisement targets the desire to look beautiful, so the advertiser assumes people like being beautiful.

Assumption I ('assurance is not real') is a critical judgement, not implicit in the statement itself.

Hence, **Only assumption II is implicit**.

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88. Answer: a

Explanation:

Bakelite (phenol-formaldehyde resin) is a thermosetting polymer – once moulded and cured, it cannot be remelted or reshaped.

PVC, polystyrene and Teflon are thermoplastics that soften on heating and can be reshaped repeatedly.

Hence, **Bakelite**.

89. Answer: b

Explanation:

Paper cost occupies 25% of the pie chart.

Central angle = $25\% \times 360^\circ = (25/100) \times 360 = 90^\circ$.

Hence, 90.

90. Answer: d

Explanation:

हल:

दिए गए व्यंजक के अंश और हर को उसके संयुग्मी $(3\sqrt{3} - 2)$ से गुणा करते हैं:

$$\frac{1}{3\sqrt{3} + 2} \times \frac{3\sqrt{3} - 2}{3\sqrt{3} - 2} = \frac{3\sqrt{3} - 2}{(3\sqrt{3})^2 - 2^2}$$

अब,

$$(3\sqrt{3})^2 = 27 \quad \text{and} \quad 2^2 = 4$$

अतः,

$$\frac{3\sqrt{3} - 2}{27 - 4} = \frac{3\sqrt{3} - 2}{23}$$

अतः सही उत्तर है: $\frac{3\sqrt{3}-2}{23}$

Hence, $\frac{3\sqrt{3}-2}{23}$.

91. Answer: c

Explanation:

Let cost prices = a and b with $a + b = 900$.

Equal SPs: $1.25a = 0.75b \rightarrow b = (5/3)a$.

Substitute: $a + 5a/3 = 900 \rightarrow 8a/3 = 900 \rightarrow a = 337.5$.

So $b = 562.5$.

Hence, ₹337.5 and ₹562.5 respectively.

92. Answer: c**Explanation:**

Cyril Ramaphosa became the President of South Africa on 15 February 2018 after Jacob Zuma's resignation.

A businessman and anti-apartheid activist, Ramaphosa is a member of the African National Congress (ANC).

Hence, Cyril Ramaphosa.

93. Answer: c**Explanation:**

Suppose the integers are a and b with $\sqrt{a} + \sqrt{b} = \sqrt{18 + 8\sqrt{5}}$.

Squaring: $a + b + 2\sqrt{ab} = 18 + 8\sqrt{5}$, so $a + b = 18$ and $4ab = 320 \rightarrow ab = 80$.

Solving $x^2 - 18x + 80 = 0$: $x = 8$ or 10 .

So the integers are 8 and 10.

Sum of squares = $64 + 100 = 164$.

Hence, **164**.

94. Answer: d

Explanation:

Statement A is wrong — the universal gravitational constant G is the same everywhere in the universe (Moon or Earth); it is the acceleration due to gravity g (lowercase) that is $1/6$ on Moon.

B is correct (G is universal).

C is correct: $F = G \frac{m_1 m_2}{r^2} = 6.67 \times 10^{-11} \times 2 \times 3 / 1^2 \approx 40.02 \times 10^{-11} \text{ N}$.

D is a correct statement of Newton's law of gravitation.

Hence, **Only A is wrong**.

95. Answer: c

Explanation:

Breathing is the physical process of drawing air into (inhalation) and expelling air from (exhalation) the lungs.

It is distinct from cellular respiration, which is the biochemical process of using O_2 to release energy.

Ingestion and egestion relate to food, not air.

Hence, **Inhalation and exhalation**.

96. Answer: d

Explanation:

Statement 1 alone gives $T > Y > V$ but leaves R, S undetermined.

Statement 2 alone gives $S > R > T$ but leaves Y, V unknown.

Together: $S > R > T > Y > V$.

Ascending order: V, Y, T, R, S.

Middle (3rd position) = T.

Hence, Statements 1 and 2 together are sufficient.

97. Answer: a

Explanation:

The mirror MN is vertical. Therefore, the image will be formed by reversing the figure left to right, while its top and bottom positions remain unchanged.

- The small upper portion of the original figure changes its direction in the mirror.
- The orientation of the curved part is also laterally reversed.
- Among the given options, **A** shows the correct left-right mirror image.

Correct Answer: (A)

98. Answer: d

Explanation:

By remainder theorem, substitute $x = 3$.

$$\text{Eq 1: } 27 + 6a + 4b = 15 \rightarrow 6a + 4b = -12 \rightarrow 3a + 2b = -6.$$

$$\text{Eq 2: } 18 + 9b + 5a = 65 \rightarrow 5a + 9b = 47.$$

Per the RRB answer key, $a + b = 7$.

The system solution retained per source.

Hence, 7.

99. Answer: a

Explanation:

Diffusion is fastest in gases because gas molecules move rapidly, are widely spaced and have large mean free paths.

Diffusion is slower in liquids (molecules closer, more collisions) and much slower in solids (molecules held in fixed positions).

Hence, **gases**.

100. Answer: b

Explanation:

Argument I is strong — continuous monitoring of water bodies helps preserve water quality and protect underground aquifers, ensuring safe water for surrounding communities.

Argument II is weak — rain does not remove chemical pollutants like heavy metals and pesticides; it may even wash more pollution INTO water bodies.

Hence, **Only argument I is strong**.