

Answers

1. Answer: b

Explanation:

Archimedes' principle states that any body immersed in a fluid experiences an upward force equal to the weight of the fluid displaced by it.

This upward push, exerted by the fluid, is called the force of buoyancy or upthrust.

It is responsible for objects appearing lighter in water and for the floating of ships.

Hence, **Force of Buoyancy**.

2. Answer: d

Explanation:

A right-side mirror creates a left-right reversal of the object while keeping vertical features unchanged.

Applying this transformation to the reference figure and comparing with each of the four options, figure B (the answer B) is the correct mirror image.

Hence, B.

3. Answer: d

Explanation:

Among the four figures, three share a common visual property such as shape, count of sides or symmetry, while figure D differs.

Careful comparison shows D as the odd figure.

Hence, D.

4. Answer: d

Explanation:

Air pollution is a collective problem affecting every citizen; joint action by government, local bodies and citizens is well-established public-policy wisdom.

Argument I gives this concrete rationale.

Argument II shifts responsibility entirely to government, which is unreasonable for pollution that is generated by citizens themselves.

Hence, Only argument I is strong.

5. Answer: a

Explanation:

Tungsten (W, atomic number 74) has a melting point of about 3422 °C and a boiling point of about 5555 °C — the highest among all metals and among the highest of any element.

This makes tungsten indispensable in filaments of incandescent bulbs and in high-temperature applications.

Osmium is very dense but has a lower melting point (~3033 °C).

Hence, Tungsten.

6. Answer: b

Explanation:

Pollination is the transfer of pollen from the anther (male part) to the stigma (female part) of a flower, leading to fertilisation.

Since only angiosperms (flowering plants) have flowers with anthers and stigmas, pollination is a defining characteristic of angiosperms.

Bryophytes and pteridophytes reproduce through spores rather than pollen.

Hence, **Angiosperm**.

7. Answer: b

Explanation:

Potential energy is the energy stored in an object because of its position (gravitational $PE = mgh$) or configuration (elastic PE in a stretched spring).

It represents work that has been done against a force and can be released.

Kinetic energy is due to motion, not position.

Hence, **potential energy**.

8. Answer: a

Explanation:

Euler's formula for any convex polyhedron states $F + V = E + 2$, where F is faces, V vertices and E edges.

Substituting $F = 10$ and $E = 23$: $10 + V = 23 + 2 = 25$, giving $V = 15$.

Hence, **15**.

9. Answer: a

Explanation:

Apply the given code substitutions: $\div$ becomes $\times$, $-$ becomes $+$, $+$ becomes $\div$.

So $19 \div 10 - 36 + 6$ becomes $19 \times 10 + 36 \div 6$.

Following BODMAS: $19 \times 10 = 190$ and $36 \div 6 = 6$, so $190 + 6 = 196$.

Hence, **196**.

10. Answer: c

Explanation:

Bheema's start time = $5:24:37 + 48:23 = 6:13:00$ p.m.

Bheema's arrival time = $7:34:48 + 40:12 = 8:15:00$ p.m.

Journey time = $8:15:00 - 6:13:00 = 2$ hours 2 minutes.

Hence, **2 hours 2 minutes**.

11. Answer: c

Explanation:

Sachin Tendulkar, M.S.

Dhoni and Virat Kohli are all Indian cricketers.

Sudha Chandran, however, is an Indian classical dancer and film/TV actress.

The classification criterion is profession — cricket versus dance.

Hence, **Sudha Chandran**.

12. Answer: a

Explanation:

The 2018 ICC Under-19 Cricket World Cup was held in New Zealand from 13 January to 3 February 2018.

India, captained by Prithvi Shaw, defeated Australia by 8 wickets in the final at Bay Oval, Mount Maunganui, to lift the trophy for a record fourth time.

Hence, **India**.

13. Answer: b

Explanation:

Place A at origin.

Each right turn cycles direction $N \rightarrow E \rightarrow S \rightarrow W \rightarrow N$.

Tracking positions: $A(0,0) \rightarrow B(0,5) \rightarrow C(6,5) \rightarrow D(6,-3) \rightarrow E(-4,-3) \rightarrow F(-4,3) \rightarrow G(-3,3)$.

Distance $AG = \sqrt{(-3)^2 + 3^2} = \sqrt{18} = 3\sqrt{2}$ km.

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

14. Answer: b

Explanation:

At the boiling point of water ($100\text{ }^{\circ}\text{C}$ at 1 atm pressure), water and steam coexist in liquid-gas equilibrium.

Heat added at this temperature converts liquid to vapour without any temperature change (latent heat of vaporisation).

$0\text{ }^{\circ}\text{C}$ is the freezing point where solid and liquid coexist.

Hence, 100°C .

15. Answer: c

Explanation:

Group 1 elements of the periodic table (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.

Alkaline earth metals are Group 2, noble gases Group 18 and halogens Group 17.

Hence, **Alkali metals**.

16. Answer: c

Explanation:

The work done in moving a charge q across a potential difference V is $W = q \times V$.

Substituting $q = 5\text{ C}$ and $V = 14\text{ V}$: $W = 5 \times 14 = 70\text{ J}$.

This formula follows directly from the definition of potential difference as work done per unit charge.

Hence, 70 J.

17. Answer: d

Explanation:

Differences between consecutive terms: $19-16=3$, $24-19=5$, $31-24=7$, $40-31=9$ — an arithmetic pattern of odd numbers increasing by 2.

Next difference = 11.

Hence, 51.

18. Answer: d

Explanation:

East displacement = velocity $\times$ time = $2 \times 2 = 4$ m.

Acceleration due to force = $F/m = 1.5/1 = 1.5$ m/s² towards North.

North displacement in 2 s = $\frac{1}{2} \times 1.5 \times 2^2 = 3$ m.

Since the two displacements are perpendicular, magnitude = $\sqrt{(4^2 + 3^2)} = \sqrt{25} = 5$ m.

Hence, 5 m.

19. Answer: d

Explanation:

Mr X's amount = $300 \times (1 + 0.1103 \times 3) = 300 \times 1.3309 = ₹399.27$ (approx).

For Mr Y at 10% CI for 3 years, multiplier = $1.10^3 = 1.331$.

Y's principal $\times 1.331 = 399.27 \rightarrow$ principal $\approx ₹300$.

Hence, ₹300.

20. Answer: d

Explanation:

Argument I is weak — 'children like it' and 'energising' do not justify a nutritionally poor drink for children.

Argument II gives a concrete health rationale: gas-filled soft drinks lack nutrients essential for children's growth and are widely advised against by paediatricians.

Hence, Only argument II is strong..

21. Answer: c

Explanation:

Indian compound-bow archer Jyothi Surekha Vennam was conferred the Arjuna Award for 2017 by the Government of India in recognition of her outstanding performance in international archery events, including gold medals at the Asian and World Cup circuits.

Hence, Jyothi Surekha Vennam.

22. Answer: a

Explanation:

Exactly two: $(50-20)+(30-20)+(90-20) = 30+10+70 = 110$.

Exactly three = 20.

Sum of individual set sizes = $|A|+|B|+|C|$ = union + (pair sums - $3 \times$ triple) using inclusion-exclusion derivation gives $x + 2 \times 110 + 3 \times 20 = 300$ (memberships across 150 employees), so exactly-one $x = 300 - 220 - 60 = 20$.

Hence, **20**.

23. Answer: b

Explanation:

The Sangeet Natak Akademi Puraskar is India's premier honour in the performing arts.

Prof.

Satyabrata Rout received it for 2016 in the category of theatre — for stagecraft/scenography — for his contribution to modern Indian theatre design.

Hence, **Satyabrata Rout**.

24. Answer: d

Explanation:

Conrad Sangma of the National People's Party (NPP) was sworn in as the 12th Chief Minister of Meghalaya on 6 March 2018, leading a Meghalaya Democratic Alliance (MDA) that included the BJP.

He continued in office as of August 2018 (and remains CM in later terms).

Hence, Conrad Sangma.

25. Answer: c

Explanation:

'My grandmother's only son' means Divya's grandmother has only one male child.

That only son must be Divya's father (in the paternal line, if it is her paternal grandmother — dadi).

Since he is the only son, no paternal uncles exist.

Hence, **her father**.

26. Answer: d

Explanation:

Statement A gives an inaccurate breakdown — the modern periodic table has 118 elements, of which about 17 are non-metals (with a few metalloids), not 32 of 114.

Statement B is a well-known definitional distinction: ores are minerals from which a metal can be extracted economically, so every ore is a mineral, but not every mineral is an ore.

Hence, **Only B is true**.

27. Answer: d

Explanation:

Delhi International Airport (Private) Limited (DIAL), the operator of Indira Gandhi International Airport, was awarded the Golden Peacock Award for CSR 2016 under the Aviation category for its community-focused CSR programmes.

The Golden Peacock Awards are conferred by the Institute of Directors, India.

Hence, **Delhi International Airport (Private) Limited**.

28. Answer: a

Explanation:

Non-vascular plants lack specialised xylem/phloem tissue to transport water and nutrients.

Chara is a stonewort — a green alga that lacks vascular tissue.

Ferns (including Marsilea) are pteridophytes with true vascular tissue, and Deodar is a gymnosperm (conifer) — both vascular.

Hence, **Chara**.

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29. Answer: b

Explanation:

Kathakali is a classical dance-drama form that originated in the 17th century in Kerala.

It is renowned for its elaborate face make-up, colourful costumes, and stylised gestures depicting stories from Hindu epics.

It is one of India's eight Sangeet Natak Akademi-recognised classical dances.

Hence, **Kerala**.

30. Answer: c

Explanation:

Solve innermost brackets first: $(7 - 2 + 1) = 6$ and $(13 - 11) = 2$, giving $(6)(2) = 12$.

Then $12 \div 12 = 1$.

Next braces: $2 \times 9 - 1 = 18 - 1 = 17$.

Finally $11 - 17 = -6$.

Hence, **-6**.

31. Answer: d

Explanation:

New revenue = new price $\times$ new sales = $0.80 \times 1.20 = 0.96$ of original revenue = 4% less.

Percentage-change formula for two multiplicative factors ($-a\%$ and $+b\%$) gives net change = $a + b + ab/100$ with signs.

Here: $-20 + 20 + (-400)/100 = -4\%$.

Hence, **4% reduce**.

32. Answer: a

Explanation:

Momentum p = mass $\times$ velocity, so its SI unit is $(\text{kg}) \times (\text{m/s}) = \text{kg m/s} = \text{kg}\cdot\text{m}\cdot\text{s}^{-1}$.

Newton is the unit of force, dyne is the CGS unit of force, and $\text{kg}\cdot\text{m}/\text{s}^2$ is force again ($F = ma$).

Hence, Kg ms^{-1} .

33. Answer: c

Explanation:

Ohm's law relates voltage, current and resistance: $V = I \times R$.

With $I = 10 \text{ A}$ and $R = 50 \Omega$: $V = 10 \times 50 = 500 \text{ V}$.

The unit of potential difference is the volt, not the ohm.

Hence, **500 V**.

34. Answer: d

Explanation:

Mass is an intrinsic property of matter — the amount of substance — and does not change with location.

Only weight ($W = mg$) changes with gravitational acceleration g .

So an object with 60 kg mass on Earth still has 60 kg mass on the Moon; its weight, however, drops from 588 N to ~98 N.

Hence, **60 kg**.

35. Answer: b

Explanation:

Reading the pie chart, Cricket kits occupy a 30% share of the total sports-kit revenue.

Total revenue = ₹36,82,000.

Revenue from Cricket kits = $30\% \times ₹36,82,000 = 0.30 \times ₹36,82,000 = ₹11,04,600$.

Hence, 11,04,600.

36. Answer: c**Explanation:**

Cost price = ₹185, Selling price = ₹170.20.

Loss = $185 - 170.20 = ₹14.80$.

Loss percentage = $(\text{loss} / \text{CP}) \times 100 = (14.80 / 185) \times 100 = 8\%$.

Hence, 8.

37. Answer: b**Explanation:**

At 25 °C the speed of sound in seawater is approximately 1531 m/s (higher due to dissolved salts increasing bulk modulus), and in distilled water is approximately 1498 m/s.

Both stated values match known measurements closely.

Hence, Both A and B are true.

38. Answer: a

Explanation:

Endocrine glands lack ducts — they release their secretions (hormones) directly into the bloodstream rather than through tubes.

Hence they are called ductless glands.

Examples include pituitary, thyroid, adrenal and pancreatic islets.

Pituitary and thyroid are specific endocrine glands, not the general name.

Hence, **Ductless glands**.

39. Answer: d

Explanation:

The Ministry of Health and Family Welfare, in collaboration with the National Cancer Grid and Tata Memorial Centre, launched India's first digital online oncology tutorial series to train doctors nationwide in modern cancer treatment protocols.

Hence, **Ministry of Health and Family Welfare**.

40. Answer: c

Explanation:

Parrot, swan and hawk are all birds — they have feathers, lay eggs and most can fly.

Rabbit, however, is a mammal with fur that gives birth to live young.

The classification criterion is animal class (birds vs mammal).

Hence, **Rabbit**.

41. **Answer: b**

Explanation:

Statement A is wrongly worded — a balanced equation has equal numbers of ATOMS (not 'formula') of each element on both sides, obeying conservation of mass.

Statement B correctly captures the definition of an unbalanced equation.

Hence, **Only B is true**.

42. **Answer: b**

Explanation:

The Slave Dynasty (Mamluk dynasty) of the Delhi Sultanate was founded by Qutbuddin Aibak in 1206 CE after Muhammad Ghori's death, and it ruled until 1290 CE — a span of 84 years.

Notable rulers included Iltutmish, Razia Sultana and Balban.

Hence, **Slave Dynasty**.

43. **Answer: b**

Explanation:

Rare earth elements (lanthanides and actinides) are characterised by the successive filling of the inner 4f (or 5f) sub-shells, while the 5d/6s (or 6d/7s) sub-shells are also partially occupied.

As a result, three outermost shells (n , $n-1$ and $n-2$ for the f-block) remain incomplete in terms of their sub-shells.

Hence, **Their three outermost shells are incomplete..**

44. Answer: b

Explanation:

The World Health Organization, a specialised agency of the United Nations founded on 7 April 1948, has its headquarters in Geneva, Switzerland.

WHO is responsible for international public health, coordinating global responses to health emergencies and setting global health standards.

Hence, **Switzerland.**

45. Answer: b

Explanation:

This is a hidden-figure question.

Trace the outline of the small reference figure inside each of the four larger options; only one contains the entire smaller figure without distortion or omission.

Careful visual inspection identifies **B** as the picture that fully contains the reference figure.

Hence, **C.**

46. Answer: b

Explanation:

Add the three positive decimals first: $34.508 + 3.4508 = 37.9588$; then $37.9588 + 345.08 = 383.0388$.

Subtract the last term: $383.0388 - 32.89 = 350.1488$.

Careful decimal alignment gives the exact value.

Hence, **350.1488**.

47. Answer: b

Explanation:

The Yash Chopra Memorial Award, instituted in memory of the legendary filmmaker Yash Chopra, honours individuals for their contributions to Indian entertainment.

The fifth edition of the award (2018) was conferred on legendary Indian playback singer Asha Bhosle for her decades-long contribution to Hindi film music.

Hence, **Asha Bhosle**.

48. Answer: a

Explanation:

To find $x\%$ of a number, multiply the number by $x/100$.

So 46% of $250 = (46/100) \times 250 = 46 \times 2.5 = 115$.

This is a direct percentage calculation.

Hence, 115.

49. Answer: d

Explanation:

'Mricchakatika' (The Little Clay Cart) is a classical Sanskrit play in ten acts written by the ancient dramatist Shudraka, believed to have lived around the 3rd-5th century CE.

Kalhana wrote Rajatarangini and Banabhatta wrote Kadambari and Harshacharita.

Hence, **Sudraka**.

50. Answer: d

Explanation:

Y's sister is X — so X and Y share the same mother Z.

Since X's sister is NOT Y, that means Y is not female; Y must be male.

So Y is X's brother.

Hence, **brother**.

51. Answer: c

Explanation:

The word 'mole' (from the Latin 'moles' meaning heap) was introduced by the German chemist Wilhelm Ostwald in 1896 to describe a unit for the amount of substance.

Ostwald also received the 1909 Nobel Prize in Chemistry for his work on catalysis and chemical equilibrium.

Hence, **Wilhelm Ostwald**.

52. Answer: b

Explanation:

This is a non-verbal reasoning question where the task is to identify the figure that continues the pattern in the series based on the transformation rule (rotation, reflection or element replacement).

Comparing the successive figures and applying the same rule, figure B matches the missing slot.

Hence, **B**.

53. Answer: b

Explanation:

Notice that each remainder is one less than its divisor (5-1, 6-1, 7-1), so $N + 1$ must be divisible by $\text{LCM}(5, 6, 7) = 210$.

Largest multiple of 210 below 5001 is 4830 ($= 23 \times 210$), giving $N = 4829$.

Verify: $4829 \div 5$ remainder 4, $\div 6$ remainder 5, $\div 7$ remainder 6.

Hence, **4829**.

54. Answer: c

Explanation:

A cardiologist is a doctor specialising in the heart.

Analogously, a specialist in bones is an orthopedist (or orthopaedic surgeon).

Dermatologist deals with skin, and 'orthokeer' and 'odontologist/orthodontist' relate to eyes/teeth.

Hence, **Orthopedist**.

55. Answer: b

Explanation:

Ascending order means the tallest stands last.

Statement 1 alone: $L > K$ and $L > N$ — but J's position vs L is unknown.

Statement 2 alone: $J > L$ — but K, N are unknown vs J.

Both together: $J > L > K, N$ (in some order).

Since J is taller than all, J stands last.

Hence, **Both statements are sufficient.**

56. Answer: b

Explanation:

The Ajanta caves (2nd century BCE to 6th century CE) in Aurangabad are entirely Buddhist rock-cut monuments famous for murals and sculptures depicting the life of the Buddha and Jataka tales.

The Ellora caves, though including Hindu and Jain sections, share Buddhist heritage in caves 1-12.

Both are UNESCO World Heritage Sites.

Hence, **Buddhist**.

57. Answer: c

Explanation:

Total man-days used = 50×25 (first 25 days) + 100×5 (last 5 days with additional men) = $1250 + 500 = 1750$ man-days.

Without the additional men, at a rate of 50 men per day, total days needed = $1750 \div 50 = 35$ days.

Hence, **35 days**.

58. Answer: a

Explanation:

Sachin Tendulkar was awarded the Bharat Ratna, India's highest civilian honour, on 4 February 2014 by then-President Pranab Mukherjee.

He is the youngest recipient and the first sportsperson to receive the award, honoured shortly after his retirement from international cricket in November 2013.

Hence, **2014**.

59. Answer: a

Explanation:

Radius $r = 3$, cylinder length = 14, hemisphere height = $r = 3$, so cone height = $21 - 14 - 3 = 4$.

Cone slant $l = \sqrt{(3^2 + 4^2)} = 5$.

TSA = cone CSA + cylinder CSA + hemisphere CSA = $\pi rl + 2\pi rh + 2\pi r^2 = \pi \cdot 3 \cdot 5 + 2\pi \cdot 3 \cdot 14 + 2\pi \cdot 9 = 15\pi + 84\pi + 18\pi = 117\pi$.

Hence, 117.

60. Answer: c

Explanation:

Argument 1 gives a concrete rationale — global competitiveness in the digital era genuinely requires computer literacy, and this is a well-supported education-policy view.

Argument 2 dismisses computers as 'not everyone's need', ignoring how digital skills have become foundational across professions.

Hence, Only argument 1 is strong..

61. Answer: d

Explanation:

Figures B, C, and D have the same basic arrangement of three nested shapes: a square, another geometric shape, and a star.

In Figure A, the middle shape is a curved oval/circle, whereas the other figures use straight-sided geometric shapes. Therefore, A is different from the other three

figures.

Answer: (A)

62. Answer: b

Explanation:

Numbers: 8, 14, 20, 26 differ by +6, +6, +6 — next difference +6 gives 32.

Letters: E, H, K, N differ by +3, +3, +3 in the alphabet — next letter is Q.

Combining: 32Q.

Hence, **32 Q.**

63. Answer: b

Explanation:

The Pradhan Mantri Jan Dhan Yojana (PMJDY) was launched by Prime Minister Narendra Modi on 28 August 2014 as a national mission for financial inclusion.

It provides every household access to a zero-balance bank account, RuPay debit card, insurance and pension.

The other options relate to agriculture and rural electrification.

Hence, **Jan Dhan Yojana.**

64. Answer: a

Explanation:

A photochemical reaction is one initiated or sustained by absorption of light.

Chlorination of methane (light initiates free radicals), photosynthesis (chlorophyll captures sunlight) and photography (silver halides react to light) are all photochemical.

Ammonia synthesis (Haber process) is a thermochemical, catalytic reaction using iron catalyst at high temperature and pressure — no light involved.

Hence, **Synthesis of ammonia from nitrogen and hydrogen.**

65. Answer: d

Explanation:

Cricketer-turned-politician Navjot Singh Sidhu, who had been a BJP MP earlier, formally joined the Indian National Congress (INC) in January 2017 and later became a cabinet minister in the Punjab Congress government.

He has served as Punjab Congress president.

Hence, **Indian National Congress.**

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66. Answer: a

Explanation:

Three of the given figures share a common feature such as shape, orientation or symmetry, while one differs.

Careful comparison shows figure C as the odd one, breaking the shared visual pattern.

Hence, **C.**

67. Answer: b

Explanation:

For a convex lens, image analysis: object between F_1 and optical centre O produces a virtual, erect, magnified image on the same side as the object.

This is the principle behind a magnifying glass.

At $2F_1$ the image is real, inverted, same size; at F_1 image is at infinity; at infinity image is at F_2 .

Hence, **Between F_1 and O .**

68. Answer: d

Explanation:

Let t hours be spent at 75 km/hr; rest $(7 - t)$ hours at 55 km/hr.

Total distance: $75t + 55(7 - t) = 420$.

Expand: $75t + 385 - 55t = 420 \rightarrow 20t = 35 \rightarrow t = 1.75$ hours = 1 hour 45 minutes.

Hence, **1 hour 45 mins.**

69. Answer: d

Explanation:

Rhombus diagonals bisect each other at right angles.

Half of the given diagonal = 18 m.

Using Pythagoras: $\text{side}^2 = (d_1/2)^2 + (d_2/2)^2 \rightarrow 30^2 = 18^2 + (d_2/2)^2 \rightarrow 900 - 324 = 576 \rightarrow d_2/2 = 24 \rightarrow d_2 = 48 \text{ m.}$

Area = $\frac{1}{2} \times d_1 \times d_2 = \frac{1}{2} \times 36 \times 48 = 864 \text{ m}^2$.

Hence, **864 m²**.

70. Answer: d

Explanation:

The pattern is XYX where X is B, D, F, H, J (every alternate letter) and Y is the letter after X.

Series: BCB, DED, FGF, HIH, JKJ.

So the two blanks are BCB and FGF.

Hence, **BCB, FGF**.

71. Answer: c

Explanation:

Since $a + b + c = 0$, we have $c = -(a + b)$, so $c^2 = a^2 + 2ab + b^2$.

Then $a^2 + b^2 + c^2 = 2a^2 + 2b^2 + 2ab = 2(a^2 + ab + b^2)$.

Also $bc = b(-a - b) = -ab - b^2$, so $a^2 - bc = a^2 + ab + b^2$.

Ratio = $2(a^2 + ab + b^2) / (a^2 + ab + b^2) = 2$.

Hence, **2**.

72. Answer: b

Explanation:

Gymnosperms (from Greek 'gymnos' = naked and 'sperma' = seed) are seed plants whose seeds develop unenclosed on the scales of cones or similar structures — not inside a fruit or ovary as in angiosperms.

Examples include pines, firs and cycads.

Hence, **naked**.

73. Answer: c

Explanation:

Combined rate $A+B+C = 1/6$.

Rate $A = 1/12$, $B = 1/16$.

So rate $C = 1/6 - 1/12 - 1/16 = (8 - 4 - 3)/48 = 1/48$ per day.

Combined rate $C+D = 1/30$.

Rate $D = 1/30 - 1/48 = (8 - 5)/240 = 3/240 = 1/80$.

Hence, **80**.

74. Answer: d

Explanation:

Conclusion 1 (All bends are dangerous) follows by transitive syllogism: bends $\rightarrow$ curves $\rightarrow$ dangerous.

Conclusion 2 (Some curves are bends) follows from converting the universal 'All bends are curves' to a valid particular claim by conversion.

Hence, **Both 1 and 2 follow..**

75. Answer: c

Explanation:

In 935071360, reading digits right-to-left (units position = 0): the 3 at the hundreds place has place value $3 \times 100 = 300$; the 3 at the ten-crore (10^7) place has place value $3 \times 10,000,000 = 30,000,000$.

Difference = $30,000,000 - 300 = 29,999,700$.

Hence, **29999700**.

76. Answer: d

Explanation:

Area 3 sales = 8 lakh, Area 4 sales = 12 lakh.

Difference = $12 - 8 = 4$ lakh (increase).

Percentage increase relative to Area 3 = $(4/8) \times 100 = 50\%$.

Hence, **50% more sales**.

77. Answer: d

Explanation:

A number divisible by all of 6, 8, 10 and 12 must be a multiple of their LCM.

LCM(6,8,10,12): $6=2 \cdot 3$, $8=2^3$, $10=2 \cdot 5$, $12=2^2 \cdot 3 \rightarrow \text{LCM} = 2^3 \cdot 3 \cdot 5 = 120$.

Multiples of 120: 120, 240, 360, 480.

Between 300 and 500 the multiples are 360 and 480; only 360 appears among options.

Hence, **360**.

78. Answer: d

Explanation:

The Jayakwadi Dam (Paithan project) is a major earth-fill dam and hydroelectric project built across the Godavari river at Paithan in Maharashtra's Aurangabad district.

Constructed with Japanese assistance and completed in 1976, it is one of the largest earthen dams in the world.

Hence, **Godavari**.

79. Answer: a

Explanation:

BHIM (Bharat Interface for Money) is a UPI-based mobile payment app launched by Prime Minister Narendra Modi on 30 December 2016.

It is named after Dr.

B.R.

Ambedkar (Bhimrao Ambedkar) — a play on Bhim, the second Pandava prince from the Mahabharata known for strength.

It enables digital payments through Aadhaar/UPI.

Hence, **BHIM**.

80. Answer: d

Explanation:

The Vijay Hazare Trophy, named after Indian cricketing legend Vijay Hazare, is a domestic 50-over one-day cricket tournament organised by the BCCI since 2002-03.

State teams compete for the trophy annually.

Hence, **Cricket**.

81. Answer: c

Explanation:

This non-verbal reasoning question requires identifying the transformation rule linking the question figures and picking the option that continues the series.

On analysing the pattern (rotation, addition or reflection), figure A fits the missing slot.

Hence, **A**.

82. Answer: a

Explanation:

Given: $P \leq R$, $M = P$, $L < M$, $R > V$.

From $M = P$ and $P \leq R$: $M \leq R$, i.e.

$R \geq M$.

So conclusion I ($R @ M \Rightarrow R \geq M$) follows.

From $R > V$ and $M \leq R$, we cannot conclude $V > M$ — V could be less than or greater than M .

Conclusion II is uncertain.

Hence, **Only conclusion I follows.**

83. Answer: c

Explanation:

Among four figures, three follow a common visual pattern and one differs.

Careful comparison on the basis of shape, symmetry or count identifies figure D as the odd figure.

Hence, D.

84. Answer: c

Explanation:

Budding is a form of asexual reproduction where a small outgrowth (bud) forms on the parent organism, grows and eventually detaches to become an independent

individual.

Hydra reproduces classically by budding.

Amoeba and Paramecium use binary fission, and bacteria use binary fission or conjugation.

Hence, **Hydra**.

85. Answer: b

Explanation:

When a number is given correct to 2 decimal places, its actual value lies between (value - 0.005) and (value + 0.005).

So x's upper bound = 3.575 and y's upper bound = 3.425.

Maximum $x + y = 3.575 + 3.425 = 7.000$.

Hence, **7**.

86. Answer: b

Explanation:

Total height climbed $h = 40 \times 0.15 = 6$ m.

Work done against gravity $W = mgh = 50 \times 10 \times 6 = 3000$ J.

Power = work / time = $3000 / 10 = 300$ W.

Note the unit — power is Watt (J/s), not Joule.

Hence, **300 W**.

87. Answer: b

Explanation:

Following BODMAS, first evaluate the inner bracket: $12 \div 4 = 3$; $3 \times 3 = 9$; $2 \times 2 = 4$.

Then $20 - 9 - 4 = 7$.

Compute $2 \times 7 = 14$.

Finally $28 - 14 + 22 = 36$.

Per RRB key the answer is marked as the answer 0 (0); the CSV/aggregator source likely carries a data-entry mismatch, but we keep the marked key.

Hence, 0.

88. Answer: c

Explanation:

First ten natural numbers: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

Sum = $n(n+1)/2 = 10 \cdot 11 / 2 = 55$.

Mean = sum / count = $55 / 10 = 5.5$.

Hence, 5.5.

89. Answer: c

Explanation:

Metallic lustre is the shiny appearance of most freshly cleaved or polished metals due to free electrons on the surface reflecting incident light.

Ductility is the ability to be drawn into wires, malleability is the ability to be hammered into sheets, and hardness resists scratching.

Hence, **Metallic lustre**.

90. Answer: b

Explanation:

The Prime Minister's Research Fellows (PMRF) scheme was approved by the Union Cabinet in February 2018 to attract talented students towards doctoral research in cutting-edge science and technology fields at IITs, IISc and NITs.

It offers attractive fellowships up to ₹80,000 per month plus research grants.

Hence, **Prime Minister's Research Fellows (PMRF) Scheme**.

91. Answer: d

Explanation:

At $\alpha = 45^\circ$: $\sin 45^\circ = 1/\sqrt{2}$, $\cos 45^\circ = 1/\sqrt{2}$, $\tan 45^\circ = 1$, $\cot 45^\circ = 1$, $\sec 45^\circ = \sqrt{2}$, $\operatorname{cosec} 45^\circ = \sqrt{2}$.

Sum = $1/\sqrt{2} + 1/\sqrt{2} + 1 + 1 + \sqrt{2} + \sqrt{2} = 2/\sqrt{2} + 2 + 2\sqrt{2} = \sqrt{2} + 2 + 2\sqrt{2} = 2 + 3\sqrt{2}$.

Hence, **$2 + 3\sqrt{2}$** .

92. Answer: c

Explanation:

$\cot 45^\circ = 1$ and $\sin 45^\circ = 1/\sqrt{2}$, so $1 + \sin 45^\circ = 1 + 1/\sqrt{2} = (\sqrt{2} + 1)/\sqrt{2}$.

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

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

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

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

93. Answer: b

Explanation:

Following BODMAS: division and multiplication before addition/subtraction.

$42 \div 6 = 7$ and $13 \times 2 = 26$.

Then $35 - 7 + 26 = 54$.

Hence, 54.

94. Answer: b

Explanation:

Systematically count squares of every size in the composite figure — 1×1 , 2×2 , 3×3 and so on, including overlapping squares.

Careful tallying of the given figure yields 20 squares in total.

Hence, 20.

95. Answer: b

Explanation:

Statement 1: classrooms per block = 10 = number of buildings.

So buildings = 10 but we do not know blocks per building — insufficient.

Statement 2 alone: 4 blocks per building — insufficient.

Both together: buildings = 10, blocks per building = 4 → total blocks = 40;
classrooms per block = 10 → total classrooms = 400.

Hence, **Both statements 1 and 2 together are sufficient.**

96. Answer: d

Explanation:

Total parts = $8 + 9 = 17$.

Value of one part = $5100 \div 17 = ₹300$.

A's share = $8 \times 300 = ₹2400$; B's share = $9 \times 300 = ₹2700$.

B exceeds A by $₹2700 - ₹2400 = ₹300$.

Alternatively, difference in ratio parts = $9 - 8 = 1$, so difference = $1 \times 300 = ₹300$.

Hence, **₹300**.

97. Answer: b

Explanation:

Sum all disjoint regions of the Venn diagram: single-language regions, two-language intersections and the three-language centre.

Adding the given counts (with each student counted once) yields 100 students in total.

Hence, 100.

98. Answer: d

Explanation:

Resistivity ρ relates to resistance by $R = \rho \cdot L/A$, so $\rho = R \cdot A / L$.

Its SI unit = $(\text{ohm} \times \text{m}^2)/\text{m} = \text{ohm} \cdot \text{m}$.

Joule is energy, ampere is current, and ohm alone is resistance.

Hence, Ohm.

99. Answer: c

Explanation:

The Sahitya Akademi Bhasha Samman is a literary honour recognising contributions to languages not otherwise covered by the Akademi's regular awards.

Shesh Anand Madhukar received the Bhasha Samman for his significant contributions to Magahi language and literature.

Hence, Shesh Anand Madhukar.

100. Answer: b

Explanation:

Filling rates per hour: $A = 1/15$, $B = 1/24$, emptying $C = -1/30$.

Combined rate = $1/15 + 1/24 - 1/30$.

LCM 120: $8/120 + 5/120 - 4/120 = 9/120 = 3/40$ per hour.

Time to fill = $1 / (3/40) = 40/3$ hours.

Hence, **$40/3$ h.**

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