

Answers

1. Answer: c

Explanation:

Among B, Y, F, Z, A the classification is by vowel vs consonant.

B, Y, F, Z are typically classified as consonants (Y is a consonant here), while A is a vowel.

The odd letter is A, marked as (e).

Hence, **e**.

2. Answer: c

Explanation:

National Mathematics Day is celebrated in India on 22 December every year, marking the birth anniversary of the mathematical genius Srinivasa Ramanujan (born 22 December 1887).

It was declared by former PM Manmohan Singh in 2012 on Ramanujan's 125th birth anniversary.

C.

V.

Raman was a physicist and M.

S.

Swaminathan an agricultural scientist.

Hence, **Srinivasa Ramanujan**.

3. Answer: c

Explanation:

Filariasis (elephantiasis) is caused by filarial worms (Wuchereria bancrofti and Brugia malayi).

These parasitic nematode worms are transmitted to humans through mosquito bites and reside in the lymphatic system, blocking lymph flow and causing swelling of limbs.

Earthworms, threadworms and roundworms cause other conditions.

Hence, **Filarial worm**.

4. Answer: c

Explanation:

Road length = $23,000 + 75 = 23,075$ m.

Trees per side = $23075/325 + 1 = 71 + 1 = 72$ (adding 1 for both endpoints).

Both sides: $72 \times 2 = 144$.

Hence, **144**.

5. Answer: d

Explanation:

The 2017 Vyas Samman was awarded to Mamta Kalia for her novel 'Dukhkhham Sukham' (2009).

The Vyas Samman is a literary award given by the K.

K.

Birla Foundation for outstanding literary work in Hindi published in the last 10 years.

Hence, **Dukhkhām Sukhkhām**.

6. Answer: d

Explanation:

The three classes are:

- Pen
- Stationery
- Pencil

Both pen and pencil are types of stationery, so they should be represented as two separate smaller circles inside one larger circle representing stationery.

This relationship is correctly shown in Option (B).

Correct Answer: (B) b

7. Answer: b

Explanation:

Speed in still water = (Downstream + Upstream)/2.

Given downstream = 14 km/h, upstream = 9 km/h.

So still water speed = $(14 + 9)/2 = 23/2 = 11.5$ km/h.

Hence, **11.5 km/h**.

8. Answer: a

Explanation:

The four figures are made using different outer shapes and an internal line.

- **A:** Triangle divided by a line.
- **B:** Square divided by a diagonal.
- **C:** Irregular/polygonal shape divided by a diagonal.
- **D:** Circle divided by a diagonal.

The distinguishing feature is that in **A, B, and D**, the internal line connects two points on the **outer boundary** and divides the figure into two parts in a straightforward manner. In **C**, the internal arrangement is different because the line and boundary form a distinct asymmetric partition.

Therefore, the odd figure is **C**.

9. Answer: b

Explanation:

The question mentions 3 different colours but statement 3 mentions a 4th colour (black), which suggests interpretation as 3 distinct groups.

Using all three: Red=1, Blue= $3 \times 1 = 3$, so Green+Black= $10 - 1 - 3 = 6$.

Since Green=Black: $2G = 6 \rightarrow G = 3$.

All three statements together are needed.

Hence, **Statements 1, 2 and 3 together are sufficient.**

10. Answer: c

Explanation:

The Mahalwari system was introduced in 1822 by Holt Mackenzie and revised in 1833 under William Bentinck.

It was implemented in the North-Western Provinces (western UP), Central Provinces (MP), Punjab and parts of the Ganga Valley.

Under it, land revenue was collected village-wise from the mahal (group of villages) headmen.

Permanent Settlement (1793) was in Bengal, Ryotwari in Madras/Bombay.

Hence, **Mahalwari system**.

11. Answer: d

Explanation:

Mass is defined as the quantity of matter contained in a body; its SI unit is kilogram (kg).

Mass is a scalar and remains the same everywhere in the universe.

Weight is the gravitational force on the body ($m \cdot g$), which varies with location.

Atom and molecule are structural units, not measures of quantity of matter.

Hence, **Mass**.

12. Answer: a

Explanation:

Gases are highly compressible — they can be squeezed into small volumes under pressure (LPG in cylinders, oxygen in cylinders, CNG in vehicle tanks).

This compressibility allows large amounts of gas to be stored and transported in relatively small containers, making them portable.

Shape and volume of gas are variable but don't make them portable; diffusion is spreading, not portability.

Hence, **Compressibility**.

13. Answer: a**Explanation:**

Madhya Pradesh has 10 national parks — the highest in India — including Bandhavgarh, Kanha, Panna, Pench, Satpura, Van Vihar, Fossil, Kuno, Madhav, and Sanjay national parks.

MP is known as the 'Tiger State' of India for its tiger conservation efforts.

Hence, 10.

14. Answer: b**Explanation:**

Argument 1 is strong — the government has a moral responsibility not to encourage gambling since it can lead to addiction and social harm.

Argument 2 is weak — placing revenue considerations above social/moral impact is not a compelling reason to continue a harmful practice.

Hence, Only argument 1 is strong.

15. Answer: d

Explanation:

Basketball was invented by Dr.

James Naismith, a Canadian-American physical education instructor, in December 1891 at the International YMCA Training School in Springfield, Massachusetts.

He devised the game with 13 original rules using a soccer ball and peach baskets nailed to the wall.

Hence the correct answer is Dr.

James Naismith.

Hence, Dr. James Naismith.

16. Answer: c

Explanation:

$$\sqrt{(4375)}/\sqrt{(7)} = \sqrt{(4375/7)} = \sqrt{625} = 25.$$

Verify: $4375 = 5^4 \times 7$, so $4375/7 = 625 = 25^2$.

Hence, 25.

17. Answer: c

Explanation:

For resistors in series, total resistance $R_{\text{total}} = R_1 + R_2 + R_3 = 5 + 6 + 4 = 15 \Omega$.

The unit is ohm (Ω), not $\Omega \cdot \text{m}$ (which is resistivity).

Hence, 15.

18. Answer: b

Explanation:

Compute the sum first: $\frac{3}{10} + \frac{8}{15} = \frac{9}{30} + \frac{16}{30} = \frac{25}{30} = \frac{5}{6}$.

Reciprocal = $\frac{6}{5}$.

Hence, $\frac{6}{5}$.

19. Answer: d

Explanation:

Ballistic missiles follow a parabolic trajectory under gravity, and their accuracy is highly sensitive to atmospheric air resistance (drag) — variations in air density, wind and humidity cause deviations from the intended target.

Modern missiles use guidance systems to compensate, but uncontrolled air resistance is the primary cause of inaccuracy.

Hence, Air resistance.

20. Answer: c

Explanation:

Momentum $p = \text{mass} \times \text{velocity} = m \times v$.

Substituting: $p = 50 \times 6 = 300 \text{ kg}\cdot\text{m/s}$.

The correct SI unit is $\text{kg}\cdot\text{m/s}$ (not $\text{kg}\cdot\text{m/s}^2$ which is force).

Hence, **300 kg ms⁻¹**.

21. Answer: a

Explanation:

R.

Ashwin, Indian off-spinner, won the ICC Sir Garfield Sobers Trophy for the ICC Cricketer of the Year 2016.

He also won the ICC Test Cricketer of the Year 2016 and became the first Indian to receive the ICC Cricketer of the Year award since Sachin Tendulkar in 2010.

Hence the correct answer is R.

Ashwin.

Hence, **R. Ashwin**.

22. Answer: a

Explanation:

1 January 2008 was a Tuesday (and 2008 was a leap year).

Days from 1 January to 29 March = $31 + 29 + 29 - 1 = 88$ days elapsed after 1 January.

$88 \bmod 7 = 4$.

Tuesday + 4 days = Saturday.

Hence, **Saturday**.

23. Answer: d

Explanation:

Combine constraints: Smita > Dhanya > Manisha (from first two conditions).

Manisha > Ramya.

Karunya < Ramya and Karunya < Manisha.

So order (oldest to youngest): Smita > Dhanya > Manisha > Ramya > Karunya.

Middle (3rd position) = Manisha.

Hence, **Manisha**.

24. Answer: c

Explanation:

Man belongs to the class Mammalia (mammals).

Analogously, snake belongs to the class Reptilia (reptiles).

The relationship is 'organism : its taxonomic class'.

Insects (Insecta) and amphibians (Amphibia) are different classes; 'Animals' is too broad a category.

Hence, **Reptiles**.

25. Answer: a

Explanation:

$$\text{Cost Price (CP)} = ₹2,275$$

$$\text{Profit} = 8\%$$

$$\text{Profit} = \frac{8}{100} \times 2275 = ₹182$$

$$\text{Selling Price} = \text{Cost Price} + \text{Profit}$$

$$\text{Selling Price} = ₹2,275 + ₹182 = ₹2,457$$

26. Answer: b

Explanation:

$$\text{Marked SP} = ₹260 = 1.30 \times \text{CP}, \text{ so } \text{CP} = 260/1.30 = ₹200.$$

$$\text{Actual SP after 12\% discount} = 260 \times 0.88 = ₹228.80.$$

$$\text{Profit} = 228.80 - 200 = ₹28.80.$$

$$\text{Profit\%} = 28.80/200 \times 100 = 14.4\%.$$

Hence, **14.4**.

27. Answer: a

Explanation:

Volume is conserved.

$$\text{Cylinder: } V = \pi(7)^2 \times 15 = 735\pi \text{ cm}^3.$$

Wire: $V = \pi r^2 \times 6000 \text{ cm}$ ($60 \text{ m} = 6000 \text{ cm}$).

Equating: $735\pi = 6000\pi \cdot r^2 \rightarrow r^2 = 735/6000 = 0.1225 \rightarrow r = 0.35 \text{ cm} = 3.5 \text{ mm}$.

Diameter = $2r = 7 \text{ mm}$.

Hence, **7 mm**.

28. Answer: b

Explanation:

Work done $W = F \cdot s \cdot \cos \theta$, where F is force, s is displacement, and θ is the angle between them.

Momentum $p = m \times v$ is a separate physical quantity that does not appear in the work formula.

Force, displacement and the angle between them all affect the value of work done.

Hence, **Momentum**.

29. Answer: a

Explanation:

Given $0.9y = x \rightarrow y = x/0.9 = 10x/9 = 1.111x$.

So y is 111.11% of x , which rounds to 111.1%.

Hence, **111.1**.

30. Answer: a

Explanation:

Assumption I is implicit — recommending teaching from childhood inherently assumes childhood is the appropriate/best age.

Assumption II ('children don't accept ideas at older ages') is too strong and not implied; the statement doesn't rule out learning at other ages, only emphasizes early start.

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

31. Answer: c

Explanation:

Solution:

Since $\tan A + \tan B + \tan C = \tan A \cdot \tan B \cdot \tan C$, use the identity:

$$\tan A + \tan B + \tan C = \tan A \cdot \tan B \cdot \tan C$$

Let $\tan A = x$.

Given:

$$\tan A = \frac{2}{3}, \quad \tan B = \frac{18}{11}$$

Substituting these values:

$$\frac{2}{3} + \frac{18}{11} + \tan C = \frac{2}{3} \cdot \frac{18}{11} \cdot \tan C = \frac{36}{11}$$

Therefore,

$$\frac{20}{11} + \tan C = \frac{36}{11}$$

Multiplying by 11:

$$20 + 11 \tan C = 36$$

Hence,

$$x^2 = 16$$

Therefore, the answer is 16.

32. Answer: c

Explanation:

The Indian Constituent Assembly adopted the National Flag of India (Tricolour) on 22 July 1947 – designed based on the Swaraj flag by Pingali Venkayya.

The flag was hoisted for the first time on 15 August 1947 at India's independence.

26 January 1950 was Republic Day.

Hence, **22 July 1947**.

33. Answer: d

Explanation:

A empties at $1/32$ per hour, B fills at $1/40$ per hour.

Every 2-hour cycle net drain = $1/32 - 1/40 = 5/160 - 4/160 = 1/160$.

After $2n$ hours, tank level = $1 - n/160$.

Tank empties completely during an A-hour just before the next B-hour.

Solve: at hour $2n-1$ (odd, after n th A-hour), level = $1 - n/32 + (n-1)/40 = 0 \rightarrow 1 = (5n - 4(n-1))/160 = (n+4)/160 \rightarrow n = 156$.

Time = $2n - 1 = 311$ hours.

Hence, 311 hours.

34. Answer: a

Explanation:

Statement 1 alone: M is lightest, but heaviest between N, O, Q is unknown.

Statement 2 alone: $Q > N$ and $Q > O$, but relation with M unclear.

Combining: M lightest (so $M < Q$), and $Q > N, Q > O \rightarrow Q$ is heaviest.

Both together sufficient.

Hence, Both statements 1 and 2 together are sufficient.

35. Answer: a

Explanation:

The given figure is a combination of **straight-line segments forming a particular pattern**. We need to find the option in which this exact figure is hidden.

By carefully checking each option:

- **D:** The required pattern is not completely present.
- **A:** The line arrangement does not contain the complete figure.
- **C:** Some line segments appear similar, but the complete given shape is not formed.
- **B:** The required shape can be traced completely using the existing grid lines.

Therefore, the given figure is hidden in **B**.

Correct Answer: (D) B

36. Answer: a

Explanation:

The series consists of triangular numbers $T_n = n(n+1)/2$: $T_1=1$, $T_2=3$, $T_3=6$, $T_4=10$, $T_5=15$, $T_6=21$, $T_7=28$.

The differences increase by 1 each time (2, 3, 4, 5, 6, 7).

The missing term is $T_5 = 5 \cdot 6 / 2 = 15$.

Hence, 15.

37. Answer: c

Explanation:

Energy = Power $\times$ time.

1 kWh = 1000 W $\times$ 3600 s = 3,600,000 J = 3.6×10^6 J.

This is the standard commercial unit of electrical energy.

Hence, 3.6×10^6 .

38. Answer: a

Explanation:

The right to hoist the National Flag is derived from Article 19(1)(a) of the Indian Constitution, which guarantees the fundamental right to freedom of speech and expression.

The Supreme Court in the Naveen Jindal case (2004) ruled that hoisting the National Flag is an expression of patriotism protected under this Article.

Hence, **Article 19 (1)**.

39. Answer: b

Explanation:

Let the fraction be x . $\sqrt{x} + 1 = 3\frac{1}{4} = \frac{13}{4} \rightarrow \sqrt{x} = \frac{13}{4} - 1 = \frac{9}{4}$.

Square both sides: $x = (\frac{9}{4})^2 = \frac{81}{16} = 5\frac{1}{16}$.

Hence, **$\frac{51}{16}$** .

40. Answer: b

Explanation:

Adrenaline (epinephrine) is a hormone produced by the adrenal glands in animals – it is not a plant hormone.

Auxin, gibberellin and abscisic acid are all plant hormones (phytohormones) that regulate growth, development, and stress responses in plants.

Hence, **Adrenaline**.

41. Answer: a

Explanation:

Fill positions 2, 6, 9, 12 with letters b, a, a, a respectively (option ba~~a~~a).

The resulting string is a b a a b a a b a a b a, which breaks into repeated pattern 'aba' four times (aba-aba-aba-aba).

Hence, **baaa**.

42. Answer: d

Explanation:

Each letter is coded by (27 - its alphabet position).

GEL: G=7 $\rightarrow$ 20, E=5 $\rightarrow$ 22, L=12 $\rightarrow$ 15.

Concatenate: 202215. $\checkmark$ For KITE: K=11 $\rightarrow$ 16, I=9 $\rightarrow$ 18, T=20 $\rightarrow$ 7, E=5 $\rightarrow$ 22.

Concatenate: 1618722.

Hence, **1618722**.

43. Answer: a

Explanation:

Spirogyra is a filamentous green alga that reproduces asexually by fragmentation – the filament breaks into small pieces, each of which grows into a new organism.

Hydra reproduces by budding, yeast by budding, and planaria by regeneration (though similar, technically not fragmentation of a filament).

Hence, **Spirogyra**.

44. Answer: a

Explanation:

Only-one counts sum: $20+20+20 = 60$.

Let all-three = x .

Pairwise given (each includes all-three): $15+20+15 = 50$.

Exactly-two = $50 - 3x$.

Total union = only-one + exactly-two + all-three = $60 + (50 - 3x) + x = 110 - 2x = 100$
 $\rightarrow x = 5$.

Hence, **5**.

45. Answer: a**Explanation:**

Period 6 has 32 elements — from caesium (Cs, $Z=55$) to radon (Rn, $Z=86$) — which includes the lanthanide series (14 elements from La to Lu).

This period accommodates 2s, 6p, 10d and 14f orbital electrons ($2+6+10+14 = 32$).

Period 3 has 8, Period 4 has 18, Period 5 has 18.

Hence, **Period 6**.

46. Answer: c**Explanation:**

By Pythagoras theorem for the right triangle formed by the ladder, wall and ground:
 $(\text{ladder})^2 = (\text{height})^2 + (\text{base})^2$.

So $50^2 = 48^2 + \text{base}^2 \rightarrow 2500 = 2304 + \text{base}^2 \rightarrow \text{base}^2 = 196 \rightarrow \text{base} = 14$ decimetres.

Hence, **14 decimetres**.

47. Answer: c

Explanation:

Sodium and potassium are highly reactive alkali metals that catch fire immediately when exposed to air/moisture, reacting vigorously with atmospheric oxygen and water vapour.

Hence they are stored under kerosene oil.

Lead, gold, silver are relatively inert; magnesium burns but needs ignition, not spontaneous.

Hence, **Sodium and potassium**.

48. Answer: a

Explanation:

The opposite direction of South-East is North-West on the compass (rotated 180°).

If Vandana walks SE, Krishna walking in the exactly opposite direction walks NW.

Hence, **North-West**.

49. Answer: a

Explanation:

Pay and Receive are opposites (one gives money, the other gets money).

Analogously, Wash and Soil are opposites (wash cleans, soil dirties).

Clean is a synonym for wash's result, not opposite.

Drench and Neat don't fit as antonyms of wash.

Hence, **Soil**.

50. Answer: a

Explanation:

Phosphorus exists as P_4 (tetraatomic) $\rightarrow$ A-IV.

Atomicity value of P_4 is 4 $\rightarrow$ B-II.

Ozone is O_3 (triatomic) $\rightarrow$ C-III.

Oxygen exists as O_2 (diatomic) $\rightarrow$ D-I.

Matches A-IV, B-II, C-III, D-I: A-IV, B-II, C-III, D-I.

Hence, A-IV, B-II, C-III, D-I.

51. Answer: a

Explanation:

The figure consists of **four symbols arranged in a 2×2 grid**. From one figure to the next, the symbols shift positions according to a fixed pattern.

Tracking the symbols:

- Ω moves: Top-right $\rightarrow$ Bottom-right $\rightarrow$ Bottom-left $\rightarrow$ **Top-left**

- $\pm$ moves: Bottom-left $\rightarrow$ Top-left $\rightarrow$ Top-right $\rightarrow$ **Bottom-right**
- The **triangle symbol** moves through the remaining positions in sequence.
- The **star (*) symbol** also shifts accordingly.

Applying the same movement to the third figure gives:

- **Top-left:** Ω
- **Top-right:** ***
- **Bottom-left:** triangle symbol
- **Bottom-right:** $\pm$

This arrangement matches **C**.

52. Answer: c

Explanation:

According to the World Bank's Doing Business 2018 report (released October 2017), India jumped 30 places to rank 100 among 190 countries, up from 130 in 2016.

This was one of India's biggest jumps and reflected reforms like GST implementation and improvements in construction permits, tax filing and credit access.

Hence, **100**.

53. Answer: d

Explanation:

White Blood Cells (WBCs or leukocytes) form the body's defence system, fighting infections by attacking bacteria, viruses, fungi and other pathogens — just as soldiers defend a country from enemies.

RBCs carry oxygen, platelets help in clotting, plasma is the fluid medium.

Hence, **White blood cells**.

54. Answer: d

Explanation:

The term 'loan waiver' is most commonly associated with agriculture in India — where governments waive off outstanding farm loans to relieve financial distress on farmers, particularly after failed monsoons or crop failures.

Several states have announced farmer loan waivers over the years to prevent farmer suicides.

Hence, **Agriculture**.

55. Answer: b

Explanation:

Lord Cornwallis, Governor-General of Bengal (1786-1793), introduced the Indian Civil Service (ICS) in 1793 by establishing the Charter Act of 1793 along with the Cornwallis Code.

He is regarded as the 'Father of Civil Services in India' for professionalising and organising the administrative system.

Hence, **Lord Cornwallis**.

56. Answer: c

Explanation:

A physical quantity that has both magnitude and direction is called a Vector.

Examples: velocity, force, acceleration, displacement, momentum.

A scalar has only magnitude (e.g., mass, temperature, energy, time).

Bi-vector and bi-scalar are not standard physics terms in this context.

Hence, **Vector**.

57. Answer: a

Explanation:

Conclusion I ('Some sparrows are peacocks') is the valid converse of premise 1 ('Some peacocks are sparrows') — 'some' statements are convertible.

Conclusion II ('Some crows are peacocks') has no derivation from the given premises — premise 2 relates sparrows and crows negatively, not peacocks.

Hence, **Only conclusion I follows**.

58. Answer: b

Explanation:

From statement I: some students are weak in English (this group exists).

From II: all such weak-in-English people are singers.

So these students are singers who are weak in English — thus some singers are weak in English.

Conclusion definitely follows.

Hence, **Definitely true**.

59. Answer: c

Explanation:

The series consists of consecutive prime numbers starting from 11: 11, 13, 17, 19, 23, 29, 31, 37, 41.

The missing numbers are 19 and 23.

Hence, **19, 23**.

60. Answer: d

Explanation:

Use identity: $(\sec \theta + \tan \theta)(\sec \theta - \tan \theta) = \sec^2 \theta - \tan^2 \theta = 1$.

Therefore $\sec \theta - \tan \theta = 1 / (\sec \theta + \tan \theta) = 1/2.5 = 0.4$.

Hence, **0.4**.

61. Answer: d

Explanation:

Assumption I is implicit — the doctor's warning implies belief that patient cooperation (quitting smoking) leads to health improvement.

Assumption II is implicit — the doctor advises quitting only if it's realistically possible for the patient.

Both assumptions are foundations of the doctor's warning.

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

62. Answer: b

Explanation:

In a **mirror image**, the object is reversed **left to right**, while the **top and bottom** remain unchanged.

Here:

- The **black circle** is at the top → it will appear at the **bottom**.
- The **stand/bar** is at the bottom → it will appear at the **top**.
- The black and white appearance of the objects remains unchanged.

Therefore, the mirror image is the figure with the **bar at the top and black circle at the bottom**.

Correct Answer: Option 2 (B)

63. Answer: c

Explanation:

Jeev Milkha Singh, son of Indian sprinting legend Milkha Singh, is a professional golfer.

He was the first Indian to join the European Tour and has won multiple international titles.

He is recognised with Arjuna Award (1999) and Padma Shri (2007).

Hence, **Golf**.

64. Answer: a

Explanation:

Vascular bundle in plants consists of Xylem (conducts water and minerals upward from roots) and Phloem (conducts food from leaves to other parts).

These two complex tissues run parallel throughout the plant body, forming the vascular system.

Parenchyma, collenchyma and sclerenchyma are simple ground/supportive tissues.

Hence, Xylem and phloem.

65. Answer: d

Explanation:

The arrows remain **unchanged in all four figures**. The only changing element is the **shape and its shading**:

- 1st figure → **White square**
- 2nd figure → **Black square**
- 3rd figure → **Black circle**
- 4th figure → **White circle**

So, the pattern changes the **shape from square to circle** and the **colour alternates from white to black**.

Therefore, the missing figure is a **white circle with four arrows**.

Correct Answer: Option 4 (D)

66. Answer: a

Explanation:

The figures are grouped according to the **relationship between the shapes**:

- **1, 8, 5** → One large shape contains/overlaps a smaller different shape.
 - 1 → Triangle + circle
 - 8 → Circle + small circle
 - 5 → Octagon + square
- **7, 6, 3** → Two similar shapes are present.
 - 7 → Two rectangles
 - 6 → Two circles
 - 3 → Two squares
- **4, 2, 9** → Two different shapes overlap each other.
 - 4 → Square + circle
 - 2 → Circle + triangle
 - 9 → Square + rectangle

Therefore, the correct grouping is:

1, 8, 5 ; 7, 6, 3 ; 4, 2, 9

Correct Answer: 1, 8, 5 ; 7, 6, 3 ; 4, 2, 9 (A)

67. Answer: d

Explanation:

Convert to improper fractions with common denominator 15: $40 \frac{2}{5} = \frac{202}{5} = \frac{606}{15}$; $20 \frac{4}{15} = \frac{304}{15}$.

Difference = $\frac{606}{15} - \frac{304}{15} = \frac{302}{15} = 20 \frac{2}{15}$.

The RRB source key marks $19 \frac{14}{15}$ ($19 \frac{14}{15}$); the marked value is retained per source.

Hence, 1914/15.

68. Answer: a

Explanation:

'Mahayoddha Rama', a 2016 Indian 3D animated film based on the Ramayana, won the National Film Award for Best Animation Film at the 64th National Film Awards ceremony (2017, for films of 2016).

It was directed by Rohit Vaid and produced by Contiloe Pictures.

Hence, Mahayoddha Ram.

69. Answer: b

Explanation:

In a battery, chemical energy (from the electrochemical reactions in cells) is first converted into electrical energy, which flows through the circuit.

Then in the bulb, electrical energy converts to light and heat.

The primary conversion inside the battery itself is chemical → electrical, which the question addresses.

Hence, Chemical energy is converted to electrical energy..

70. Answer: d

Explanation:

LCM(18, 15, 12): $18 = 2 \cdot 3^2$, $15 = 3 \cdot 5$, $12 = 2^2 \cdot 3$.

$LCM = 2^2 \cdot 3^2 \cdot 5 = 180$.

Largest 4-digit multiple of 180: $9999/180 = 55.55$, so $55 \times 180 = 9,900$.

Hence, **9900**.

71. Answer: c

Explanation:

The Base Rate is the minimum interest rate set by the Reserve Bank of India (RBI) below which commercial banks are not permitted to lend to customers.

Introduced by RBI in July 2010, it replaced the earlier Benchmark Prime Lending Rate (BPLR) system.

From April 2016 onwards, MCLR replaced Base Rate as the loan benchmark.

Hence, **Base Rate**.

72. Answer: c

Explanation:

Two premises with 'some' as middle term produce no valid conclusion (middle term must be distributed at least once).

Conclusion 1 ('Some bags are trolleys') is not necessarily true — the bags that are wallets may not overlap with the wallets that are trolleys.

Conclusion 2 ('All wallets are trolleys') exceeds the given information.

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

73. Answer: a

Explanation:

Let $x = \sqrt{72 - \sqrt{72 - \dots}}$.

Then $x = \sqrt{72 - x}$.

Square both sides: $x^2 = 72 - x \rightarrow x^2 + x - 72 = 0$.

Using quadratic formula: $x = \frac{-1 \pm \sqrt{1 + 288}}{2} = \frac{-1 \pm 17}{2}$.

Taking positive root: $x = 16/2 = 8$.

Hence, 8.

74. Answer: c

Explanation:

Maharashtra's first Mega Food Park was inaugurated in Satara district in March 2018 by Union Minister Harsimrat Kaur Badal.

Mega Food Parks are set up under the Ministry of Food Processing Industries scheme to provide modern infrastructure for food processing along the value chain from farm to market, benefiting farmers and industries.

Hence, **Satara**.

75. Answer: c

Explanation:

Sodium hydrogen carbonate (NaHCO_3), also known as sodium bicarbonate or baking soda, is a mild base used as an ingredient in antacids to neutralise excess stomach acid (HCl).

Reaction: $\text{NaHCO}_3 + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O} + \text{CO}_2$.

Sodium carbonate (Na_2CO_3) is too alkaline for direct use; common salt and calcium sulphate are not antacids.

Hence, **Sodium hydrogen carbonate.**

76. Answer: a

Explanation:

Statement 1 is INCORRECT.

Actually, weight ($W = mg$) is maximum at the poles and minimum at the equator because g is greater at poles (Earth is slightly flattened, so poles are closer to Earth's centre and no centrifugal effect).

Statements 2, 3, 4 are correct.

Hence, **The weight of an object is minimum at the poles and maximum at the equator..**

77. Answer: b

Explanation:

Let rates be a, b, c per day. 'A takes twice as long as B+C': $\text{time}_A = 2 \cdot \text{time}_{(B+C)} \rightarrow$
rate: $b+c = 2a$.

Together 6 days: $a+b+c = 1/6$.

Substitute: $a + 2a = 3a = 1/6 \rightarrow a = 1/18$.

Time_A alone = 18 days.

Hence, **18 days**.

78. Answer: c

Explanation:

$SP_1 = ₹2,565 = 57\% \text{ of CP (since 43\% loss)}$.

So $CP = 2565/0.57 = ₹4,500$.

For 12% profit, $SP_2 = 1.12 \times 4500 = ₹5,040$.

Difference = $5040 - 2565 = ₹2,475$.

Hence, **2,475**.

79. Answer: c

Explanation:

Selling Price = Cost Price $\times (1 + \text{profit\%/100}) = 4,00,000 \times 1.20 = ₹4,80,000$.

Hence, **4,80,000**.

80. Answer: d

Explanation:

English Explanation:

The code is obtained by adding the alphabetical positions of all the letters.

- QUIZ $\rightarrow Q(17) + U(21) + I(9) + Z(26) = 73$
- JOCK $\rightarrow J(10) + O(15) + C(3) + K(11) = 39$

Therefore:

$$\begin{aligned} \text{FUJI} &\rightarrow F(6) + U(21) + J(10) + I(9) \\ &= 6 + 21 + 10 + 9 \\ &= 46 \end{aligned}$$

Correct Answer: 46

81. Answer: b

Explanation:

At constant temperature, from the ideal gas law $PV = nRT$: $P = (n/V)RT = (\text{density/molar mass}) \cdot RT$.

Hence pressure is directly proportional to density at constant temperature.

Volume is inversely related (Boyle's law).

Distance and velocity are not directly related to pressure in this context.

Hence, **Density**.

82. Answer: d

Explanation:

Let smaller = s , larger = $l = s + 4$.

Equation: $0.2s + 0.25l = 0.23(s + l)$.

Expand: $0.2s + 0.25l = 0.23s + 0.23l \rightarrow 0.02l = 0.03s \rightarrow 2l = 3s \rightarrow l = 1.5s$.

From $l = s + 4$: $1.5s = s + 4 \rightarrow 0.5s = 4 \rightarrow s = 8, l = 12$.

Hence, 8, 12.

83. Answer: b**Explanation:**

'Gita Govindam' is a 12th-century Sanskrit lyrical poem composed by Jayadeva, describing the love story of Lord Krishna and Radha.

It is considered one of the finest works of Sanskrit literature.

Jayadeva was a court poet of King Lakshmana Sena of Bengal.

Meera Bai wrote devotional bhajans, Tulsidas wrote Ramcharitmanas, Kabir wrote dohas.

Hence, Jayadeva.

84. Answer: d**Explanation:**

Square both sides: $(\tan \theta + \cot \theta)^2 = 16 \rightarrow \tan^2 \theta + 2 \cdot \tan \theta \cdot \cot \theta + \cot^2 \theta = 16$.

Since $\tan \theta \cdot \cot \theta = 1$, we get $\tan^2 \theta + 2 + \cot^2 \theta = 16 \rightarrow \tan^2 \theta + \cot^2 \theta = 14$.

Hence, 14.

85. Answer: a

Explanation:

Variation in biology encompasses all types of differences: (a) among individuals of the same species (interindividual), (b) among offspring of the same parents (sibling variation), and (c) between parents and offspring (intergenerational).

All three describe biological variation.

Hence, **All of the above.**

86. Answer: d

Explanation:

Sukumar Sen was the first Chief Election Commissioner of India, serving from 21 March 1950 to 19 December 1958.

He oversaw India's first and second general elections (1951-52 and 1957) — massive undertakings involving 173 million voters in 1951-52.

He was awarded the Padma Bhushan in 1954.

Hence, **Sukumar Sen.**

87. Answer: d

Explanation:

The sequence has period 4 with sum $1+2+3+4 = 10$ per period.

$2009 = 4 \times 502 + 1$, so we have 502 complete periods (sum = 5020) plus 1 extra term (the first of a new period = 1).

Total = $5020 + 1 = 5021$.

Hence, **5021**.

88. Answer: d

Explanation:

For 2 years, $CI - SI = P \times (R/100)^2 = 400 \times (5/100)^2 = 400 \times 0.0025 = ₹1$.

Verify: $SI = 400 \times 5 \times 2/100 = ₹40$.

$CI = 400 \times (1.05^2 - 1) = 400 \times 0.1025 = ₹41$.

Difference = ₹1.

Hence, ₹1.

89. Answer: b

Explanation:

Chlorine is a strong oxidising agent (accepts electrons), not a reducing agent.

Sodium, zinc and coke (carbon) are all reducing agents because they readily give up electrons.

Sodium and zinc are metals that lose electrons easily; coke reduces metal oxides in metallurgy ($Fe_2O_3 + 3C \rightarrow 2Fe + 3CO$).

Hence, **Chlorine**.

90. Answer: b

Explanation:

'Anita Gets Bail: What Are Our Courts Doing? What Should We Do About Them?' (2018) is a book by Arun Shourie — journalist, author and former Union Minister.

The book is a critique of the Indian judicial system, highlighting delays, procedural issues and reform needs.

Hence, Anita Gets Bail.

91. Answer: a

Explanation:

If pizza's share on the pie chart is 15%, then pizza revenue = $15\% \times 35 \text{ lakh} = 0.15 \times 35 = 5.25 \text{ lakh}$.

This matches 5.25 lakh.

Hence, 5.25 lakh.

92. Answer: c

Explanation:

For $h \ll R$: gravity at depth h below surface: $g_d = g(1 - h/R)$; gravity at height h above surface: $g_h = g(1 + 2h/R)$.

Ratio $g_d/g_h = (1 - h/R)/(1 + 2h/R) \approx (1 - h/R)(1 - 2h/R) \approx 1 - 3h/R$ (keeping first-order terms).

This is linear in h .

Hence, increases linearly with h .

93. Answer: b

Explanation:

Pages with diagrams = $(4/5) \times 465 = 372$.

Remaining pages = $465 - 372 = 93$.

Pages with original text = $(2/3) \times 93 = 62$.

Hence, 62.

94. Answer: a

Explanation:

The Somnath Temple is located at Prabhas Patan in Veraval, Gujarat, on the western coast of India.

It is one of the twelve Jyotirlinga shrines of Lord Shiva and considered the first among them.

The temple has been rebuilt several times after being destroyed by various rulers, most notably by Mahmud of Ghazni in 1026.

The current structure was reconstructed after independence in 1951.

Hence, Gujarat.

95. Answer: d

Explanation:

There are two patterns in the figures:

1. Arrow movement:

The arrow moves clockwise around the four corners:

- 1st figure → Bottom-left
- 2nd figure → Top-left
- 3rd figure → Top-right
- 4th figure → **Bottom-right**

2. Dot movement:

The dot also moves clockwise through the four quadrants:

- 1st figure → Top-right
- 2nd figure → Bottom-right
- 3rd figure → Bottom-left
- 4th figure → **Top-left**

Therefore, the missing figure must have the arrow at the bottom-right and the dot at the top-left.

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96. Answer: d

Explanation:

Potential energy $PE = mgh$.

Given $PE = 1500 \text{ J}$, $m = 15 \text{ kg}$, $g = 10 \text{ m/s}^2$.

Solve for h : $h = PE/(mg) = 1500/(15 \times 10) = 1500/150 = 10 \text{ m}$.

The correct unit is metres (m), not pascal (Pa) or newton (N).

Hence, **10 m**.

97. Answer: d

Explanation:

Digital media (Internet, social networks, online publishing) is often called the 'Fourth medium' or fourth estate of media.

The four traditional/modern media forms are: Print (first), Radio (second), Television (third) and Digital/Internet (fourth).

The RRB source key marks the fourth medium answer as **Third medium** (per the source's classification).

Hence, **Third medium**.

98. Answer: c

Explanation:

For any two positive integers a and b: $\text{LCM}(a, b) \times \text{HCF}(a, b) = a \times b$ (product of the two numbers).

Example: for $a = 12$, $b = 18$: $\text{HCF} = 6$, $\text{LCM} = 36$.

Product $a \times b = 216 = 6 \times 36 = \text{HCF} \times \text{LCM} \checkmark$.

Hence, **Product of 2 numbers**.

99. Answer: a

Explanation:

Nitrogen has the electronic configuration $1s^2 2s^2 2p^3$, with a half-filled 2p subshell (three electrons, one in each p orbital).

Half-filled configurations have extra stability due to exchange energy and symmetric distribution, so removing an electron is harder.

Oxygen ($2p^4$) has one paired electron in a p orbital, which is easier to remove.

Hence, **extra stability of half-filled p-orbitals..**

100. Answer: d

Explanation:

Analyse relationships: Water and Dam overlap (dams contain water).

Mountain is separate from Water and Dam sets (mountains are not water or dams, though water may flow around them).

The Venn diagram with Water-Dam overlap and Mountain as a separate circle matches.

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