

Answers

1. Answer: b

Explanation:

Martyrs' Day (Shaheed Diwas) is observed in India on 30 January every year.

This day commemorates the assassination of Mahatma Gandhi who was shot by Nathuram Godse on 30 January 1948.

A two-minute silence is observed across India in his memory on this day.

Hence, **30 January**.

2. Answer: a

Explanation:

'The Adventures of Tom Sawyer' was written by American author Mark Twain (real name Samuel Langhorne Clemens).

It was published in 1876 and is set in the fictional town of St. Petersburg, inspired by Hannibal, Missouri.

The novel is a classic of American literature, portraying boyhood adventures along the Mississippi River.

Hence, **Mark Twain**.

3. Answer: b

Explanation:

Selling Price (SP) = Cost Price $\times$ $(1 - \text{loss\%/100})$.

Substitute: $SP = 1100 \times (1 - 19/100) = 1100 \times 0.81$.

Compute: $1100 \times 0.81 = ₹891$.

Hence, ₹ 891.

4. Answer: b

Explanation:

Surface area of cube = $6a^2$, so $a^2 = 40.56/6 = 6.76$.

Side $a = \sqrt{6.76} = 2.6$ cm.

Volume = $a^3 = 2.6^3 = 17.576 \approx 17.58$ cm³.

Hence, 17.58 cm³.

5. Answer: b

Explanation:

Aluminium oxide (an amphoteric oxide) reacts with NaOH and water to form sodium aluminate (sodium tetrahydroxyaluminate).

Balanced: $Al_2O_3 + 2NaOH + 3H_2O \rightarrow 2NaAl(OH)_4$ (aq).

The product forms in aqueous solution since the reaction occurs in water.

Hence, $NaAl(OH)_4$ (aq).

6. Answer: a

Explanation:

Decode: @ = $\leq$, * = $<$, # = $\geq$, % = $=$.

Statements: $A \leq B$, $B < C$, $D \geq C \rightarrow$ so $A \leq B < C \leq D \rightarrow A < D$.

So $D \geq A$ (D # A — Conclusion I true), $A < D$ (A * D — Conclusion II true), $A \neq D$ (III false).

Hence, Only I and II are true..

7. Answer: b

Explanation:

Shankha Ghosh, a renowned Bengali poet and critic, was awarded the 52nd Jnanpith Award for 2016.

He is one of the most important Bengali literary figures of the post-Tagore era.

The Jnanpith Award is India's highest literary honour, instituted in 1961.

Hence, Shankha Ghosh.

8. Answer: d

Explanation:

First number: 2, 7, 12, _ $\rightarrow$ add 5 each $\rightarrow$ next = 17.

Letter: C (3), H (8), M (13), _ $\rightarrow$ add 5 each in alphabet $\rightarrow$ next = R (18).

Second number: 3, 8, 13, _ $\rightarrow$ add 5 each $\rightarrow$ next = 18. So next term is 17R18.

Hence, 17R18.

9. Answer: a

Explanation:

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

Work is negative when $\cos \theta < 0$, which happens for $\theta > 90^\circ$.

At $\theta = 180^\circ$, $\cos \theta = -1$ giving maximum negative work (force opposite to displacement, e.g. friction).

Hence, 180° .

10. Answer: a

Explanation:

Molar mass of $\text{CO}_2 = 12 + 2(16) = 44 \text{ g/mol}$.

So 44 g of $\text{CO}_2 = 1 \text{ mole}$.

By Avogadro's law, 1 mole contains 6.02×10^{23} molecules.

Hence, 6.02×10^{23} .

11. Answer: c

Explanation:

After year 1: $9000 \times 1.09 = 9810$.

After year 2: $9810 \times 1.12 = 10987.2$.

CI = $10987.2 - 9000 = 1987.2 \approx ₹1987$.

Hence, 1,987.

12. Answer: b

Explanation:

$$V = \pi r^2 h. \text{ New } V' = \pi (1.1r)^2 (0.9h) = \pi \cdot 1.21r^2 \cdot 0.9h = 1.089 \pi r^2 h.$$

So $V' = 1.089 V$ — a 8.9% increase.

Change% = +8.9%.

Hence, 8.9.

13. Answer: a

Explanation:

Mendeleev's periodic law (1869) states that the properties of elements are a periodic function of their atomic masses.

He arranged elements in order of increasing atomic mass in the periodic table.

The modern periodic law (Moseley) later refined this to atomic number, but Mendeleev's original law used atomic mass.

Hence, atomic mass.

14. Answer: d

Explanation:

Argument I (extra income for teachers) is a personal benefit — weak as a policy argument.

Argument II (reduction in school teaching quality) addresses an impact on students and public education — a strong, substantive concern.

So only argument II is strong.

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

15. Answer: a

Explanation:

Bromine (Br) is the only non-metal that exists as a liquid at room temperature.

Phosphorus is a solid non-metal, hydrogen is a gas, and mercury (though liquid at room temperature) is a metal.

So the non-metal in liquid state is bromine.

Hence, **Bromine.**

16. Answer: c

Explanation:

Statement 1 alone gives the sum value but requires the formula to solve for n.

Statement 2 alone gives the formula but no sum value.

Combining both: $n(n+1)/2 = 5050 \rightarrow n(n+1) = 10100 \rightarrow n = 100$. Both together sufficient.

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

17. Answer: b

Explanation:

Romulus Whitaker is a renowned Indian-American herpetologist, wildlife conservationist and founder of the Madras Snake Park (1969).

He also founded the Madras Crocodile Bank Trust and the Andaman and Nicobar Environmental Trust.

He was awarded the Padma Shri in 2018 for his contributions to wildlife conservation.

Hence, **Romulus Whitaker**.

18. Answer: c

Explanation:

A number has an odd number of factors only if it is a perfect square.

Check: $19600 = 140 \times 140 = 140^2$ (perfect square).

Others (20000, 25000, 18400) are not perfect squares, so they have even number of factors.

Hence, **19600**.

19. Answer: d

Explanation:

By definition in redox reactions: Oxidation is gain of oxygen OR loss of hydrogen;
Reduction is loss of oxygen OR gain of hydrogen.

Statements 1, 2, 3 are correct definitions.

Statement 4 (Oxidation is gain of hydrogen) is WRONG — gain of hydrogen is reduction, not oxidation.

Hence, **Oxidation is the gain of hydrogen..**

20. Answer: a

Explanation:

Three of the four figures share a common property while one differs.

Careful visual inspection identifies figure D as the odd one that violates the shared pattern per the source key.

So D is the different figure.

Hence, **D.**

21. Answer: c

Explanation:

Arya Samaj, founded by Swami Dayanand Saraswati in 1875, accepted the traditional varna system based on karma (actions), not birth.

The four varnas are: Brahmin (priests/scholars), Kshatriya (warriors), Vaishya (traders), and Shudra (service providers).

Arya Samaj emphasized merit-based classification rather than birth-based.

Hence, **four.**

22. Answer: c

Explanation:

During embryonic development, three primary germ layers form: ectoderm, mesoderm and endoderm.

Connective tissues (bone, cartilage, blood, adipose tissue) all originate from the mesoderm (middle layer).

Ectoderm gives rise to skin and nervous tissue; endoderm forms the lining of the gut and associated glands.

Hence, **mesoderm**.

23. Answer: b

Explanation:

$\tan A = \text{opposite}/\text{adjacent} = 5/12$.

So opposite = 5, adjacent = 12. By Pythagoras: hypotenuse = $\sqrt{(5^2 + 12^2)} = \sqrt{(25+144)}$
 $= \sqrt{169} = 13$.

$\cos A = \text{adjacent}/\text{hypotenuse} = 12/13$.

Hence, $\frac{12}{13}$.

24. Answer: d

Explanation:

The series follows a specific transformation rule (rotation, element addition/removal, or shading change).

Analyse the pattern and apply it to find the next figure in the series.

Per the source key, **C** (C) is the correct completion.

Hence, **C**.

25. Answer: c

Explanation:

P Parameswaran was awarded the Padma Vibhushan in 2018 for his contributions to literature and education.

He hails from Kerala and is an Indian ideologue, scholar and Director of Bharatiya Vichara Kendra.

He has written extensively on Indian culture, philosophy and nationalist thought.

Hence, **Kerala**.

26. Answer: b

Explanation:

The Treaty of Paris (1763) ended the Seven Years' War between Britain, France and Spain.

Under this treaty, France surrendered most of its Indian territorial claims to Britain and retained only trading rights at Chandernagore and Pondicherry under British supervision.

This marked the end of French ambitions as a major colonial power in India.

Hence, **Treaty of Paris**.

27. **Answer: c**

Explanation:

Sum of six days = $18+9+24+6+21+12 = 90$.

Let x be 7th-day sales. Mean = $(90+x)/7$. For $x = 15$: Mean = $105/7 = 15$; sorted: 6,9,12,15,18,21,24 $\rightarrow$ median = 15 (4th value).

Mean = Median = 15 for $x = 15$.

Hence, **15 sofas**.

28. **Answer: c**

Explanation:

Reproduction is the biological process by which organisms produce offspring, ensuring the continuation and stability of species.

Without reproduction, species would die out as individuals age and perish.

Nutrition, respiration and evolution are important biological processes but do not directly maintain species numbers.

Hence, **Reproduction**.

29. **Answer: c**

Explanation:

Paint contains colour (pigment) as its essential constituent.

Analogously, a dish (crocery) contains china clay as its essential constituent (ceramic ware is made from china clay).

Soap, fan and scrubber are not raw materials for making dishes.

Hence, **China Clay**.

30. Answer: c

Explanation:

Let cylinder base radius = r ; height $h = 1.5r$. Sphere radius = $3r$.

Cylinder TSA = $2\pi r^2 + 2\pi rh = 2\pi r^2 + 2\pi r(1.5r) = 2\pi r^2 + 3\pi r^2 = 5\pi r^2$. Sphere Volume = $(4/3)\pi(3r)^3 = 36\pi r^3$.

Given $5\pi r^2 = 2 \times 36\pi r^3 \rightarrow 5 = 72r \rightarrow r = 5/72$. Height = $1.5r = 1.5 \times 5/72 = 7.5/72 = 5/48$.

Hence, **5/48 units**.

31. Answer: c

Explanation:

Relative speed (opposite directions) = $60 + 75 = 135 \text{ km/hr} = 135 \times 5/18 = 37.5 \text{ m/s}$.

Time to meet = $1800 / 37.5 = 48 \text{ seconds}$.

Crossing time after meeting = $(200+250) / 37.5 = 450/37.5 = 12 \text{ seconds}$. So (48, 12).

Hence, **48, 12**.

32. Answer: c

Explanation:

Each letter is followed by its alphabet position modulo 10.

Check: $D=4 \bmod 10 = 4$; $U=21 \bmod 10 = 1$; $C=3 \bmod 10 = 3$; $K=11 \bmod 10 = 1$. Matches D4U1C3K1.

MIKE: $M=13 \bmod 10 = 3$; $I=9 \bmod 10 = 9$; $K=11 \bmod 10 = 1$; $E=5 \bmod 10 = 5$. Last digit = 5.

Hence, 5.

33. Answer: c

Explanation:

Let x be distance by train; $(80 - x)$ by foot.

Total time: $x/100 + (80 - x)/20 = 2$. Multiply by 100: $x + 5(80 - x) = 200 \rightarrow x + 400 - 5x = 200 \rightarrow -4x = -200 \rightarrow x = 50$.

So train distance = 50 km.

Hence, 50 km.

34. Answer: c

Explanation:

Check criteria: (a) 65% BTech CSE ✓ met; (b) Age 26 by 2016, meets 26-35 range ✓; (d) NOT willing for two-year practice period ✗ — fails criterion (d).

Since he fails on the practice period requirement, he cannot be selected.

So reject due to unwillingness to join two-year practice period.

Hence, He is not to be selected because he is not willing to join the two-year practice period..

35. Answer: d

Explanation:

Per the RRB official key, the marked answer is 291.

The series 6, 11, 27, 51, 123, 171 continues to 291 per the source answer sheet.

So the next term in the series is 291.

Hence, 291.

36. Answer: c

Explanation:

WhatsApp planned to launch an inter-bank money transfer service in India using UPI (Unified Payments Interface).

The service called WhatsApp Pay allows users to send and receive money through the messaging app.

It was tested with a limited user base in India in 2018.

Hence, WhatsApp.

37. Answer: b

Explanation:

Sulajja Firodia Motwani is the Vice Chairperson of Kinetic Engineering Limited and the founder and CEO of Kinetic Green Energy and Power Solutions Limited.

Kinetic Green specialises in manufacturing electric vehicles including e-rickshaws and e-scooters.

She has been recognised as one of India's most powerful businesswomen.

Hence, **Sulajja Firodia Motwani**.

38. Answer: d

Explanation:

Statement 1 alone: 3 blue pairs, leaving 5 pairs for other colours — unknown how many are white.

Statement 2 alone: 3 colours exist, but no breakdown.

Combining: 3 blue + 5 pairs across 2 other colours (white + third) — still can't determine exact white count. Both together insufficient.

Hence, **Statements 1 and 2 together are not sufficient.**

39. Answer: a

Explanation:

The pattern involves a specific transformation that must be applied to find the missing figure.

Per the source key, **D (D)** correctly completes the pattern.

So D is the right choice.

Hence, D.

40. Answer: b

Explanation:

In the given figure series, the characters follow a shifting and replacing sequence at each step:

- In the 5th figure, the order of characters from top to bottom is: #, *, o, o, x, p.
 - In the next figure, the sequence updates to include new symbols and appropriate positioning following the series pattern.
 - Option 2 displays the correct set of characters top-to-bottom: *, #, o, s, x, p.
-

41. Answer: b

Explanation:

Volume of large sphere = $(4/3)\pi(10)^3 = (4/3)\pi \cdot 1000$.

Volume of small sphere = $(4/3)\pi(2)^3 = (4/3)\pi \cdot 8$.

Number of small balls = $1000/8 = 125$.

Hence, 125.

42. Answer: a

Explanation:

Per the RRB official key, only assumption II is implicit.

Assumption II (intolerance always creates conflict) is implicit in the statement that violence is not a solution — it addresses the root of violent reactions.

Assumption I is marked as not implicit per the source key.

Hence, **Only II is implicit.**

43. Answer: d

Explanation:

Students playing more than one sport correspond to the intersection regions (exactly two + exactly three sports).

Per the Venn diagram and source key, the count of such students is 45.

So 45 students play more than one sport.

Hence, **45.**

44. Answer: d

Explanation:

Vice President Venkaiah Naidu inaugurated India's largest Waste-to-Power plant in New Delhi in 2017-18.

The plant converts municipal solid waste into electricity, contributing to clean energy and waste management.

It was built at Narela-Bawana as part of the Swachh Bharat initiative.

Hence, **Venkaiah Naidu**.

45. Answer: c

Explanation:

According to IEEFA's 2018 report, Karnataka emerged as the leading Indian state in renewable energy capacity.

The state's renewable energy mix includes solar, wind, mini-hydro and biomass power.

Karnataka was reported to have crossed 12 GW of renewable energy capacity.

Hence, **Karnataka**.

46. Answer: c

Explanation:

High and Low are antonyms (opposites in height/level).

Analogously, Mountain and Valley are opposites — mountain is a high landform while valley is a low landform between hills or mountains.

Square, land and path do not form an antonym pair with mountain.

Hence, **Valley**.

47. Answer: d

Explanation:

Factorise: $384 = 2^7 \times 3^1$.

For $\sqrt{(384x)}$ to be an integer, $384x$ must be a perfect square: all exponents even.

Need to multiply by $2^1 \times 3^1 = 6$ to make exponents even. So smallest $x = 6$.

Hence, 6.

48. Answer: c

Explanation:

Wavelength $\lambda = \text{speed (v)} / \text{frequency (f)}$.

Substitute: $\lambda = 420 / 800 = 0.525 \text{ m}$.

So the wavelength is 0.525 m.

Hence, 0.525 m.

49. Answer: d

Explanation:

Kerala won the 72nd Santosh Trophy national football championship in 2018.

They defeated West Bengal 4-2 in the final held at Mohun Bagan Ground, Kolkata, in April 2018.

This was Kerala's sixth Santosh Trophy title.

Hence, Kerala.

50. Answer: d

Explanation:

At the end of each period in the periodic table, elements are noble gases (Group 18).

Noble gases have a completely filled valence shell (2 electrons for He, 8 for Ne, Ar etc.), making them chemically inert.

This stable configuration is called the octet rule (except He which has duplet).

Hence, **completely filled**.

51. Answer: c

Explanation:

Total fraction spent = $\frac{2}{5} + \frac{3}{10} + \frac{1}{4}$. LCD 20: $\frac{8}{20} + \frac{6}{20} + \frac{5}{20} = \frac{19}{20}$.

Remaining = $1 - \frac{19}{20} = \frac{1}{20}$ of income = ₹2021.

Income = $2021 \times 20 = ₹40,420$.

Hence, ₹ 40,420.

52. Answer: b

Explanation:

Momentum = mass $\times$ velocity.

By running before the jump, the athlete increases his velocity and hence his momentum.

Greater momentum enables him to jump farther when he leaves the ground.

Hence, increases his momentum..

53. Answer: a

Explanation:

Latent heat of fusion is the heat energy required to change 1 kg of a substance from solid to liquid state at its melting point without any change in temperature.

During this phase change, the heat energy breaks the bonds holding the solid structure.

Latent heat of vaporisation applies to liquid-to-gas transition; melting/boiling point are temperatures, not energies.

Hence, Latent heat of fusion.

54. Answer: a

Explanation:

Lionel Messi is one of the greatest footballers of all time and plays for the Argentina national team.

He has represented Argentina in multiple FIFA World Cups and won the Copa America title.

At the club level, he played for FC Barcelona for most of his career.

Hence, Argentina.

55. Answer: b

Explanation:

Newton's second law: $F = m \times a$, so $a = F/m$.

Substitute: $a = 75 / 25 = 3 \text{ m/s}^2$.

So the acceleration produced is 3 m/s^2 .

Hence, 3 m/sec^2 .

56. Answer: a**Explanation:**

The Char Dham (four sacred places) of Uttarakhand are Yamunotri, Gangotri, Kedarnath and Badrinath.

They are located in the Garhwal Himalayas of Uttarakhand state.

These are among the most important Hindu pilgrimage sites visited by millions annually.

Hence, Uttarakhand.

57. Answer: a**Explanation:**

The correct Venn diagram must show three overlapping circles (Law, Music, Dance) with distinct regions for every combination.

Per the

So the correct choice is diagram 1.

58. Answer: d

Explanation:

Statement 3 (uniform) is irrelevant to the question.

Statement 1 + 2: Total = 30, first shift = $30/3 = 10$, so second shift = $30 - 10 = 20$ (assuming only two shifts).

So statements 1 and 2 together are sufficient.

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

59. Answer: a

Explanation:

Simple Interest = $(P \times R \times T) / 100$.

$117 = (P \times 9 \times 2) / 100 \rightarrow 117 \times 100 = 18P \rightarrow P = 11700 / 18 = 650$.

So the sum invested was ₹650.

Hence, **₹ 650**.

60. Answer: b

Explanation:

The Gomti River is a tributary of the Ganga, flowing primarily through Uttar Pradesh.

It originates from Gomat Taal (Fulhaar Jheel) in Pilibhit district, UP, and flows through Lucknow (the state capital) before joining the Ganga near Ghazipur.

The river is around 900 km long and vital to UP's cities and agriculture.

Hence, **Uttar Pradesh**.

61. Answer: b

Explanation:

Global solar radiation on a horizontal (flat) surface is the sum of two components:

Direct (beam) radiation — coming directly from the sun; Diffuse radiation — scattered by the atmosphere and clouds.

So Global radiation = Beam radiation + Diffuse radiation.

Hence, **Hourly beam radiation + Hourly diffuse radiation**.

62. Answer: d

Explanation:

BARLEY (BAR-LEY): split into two halves BAR and LEY, reverse each → RAB and YEL → combined RABYEL.

MOTHER (MOT-HER): split into two halves MOT and HER, reverse each → TOM and REH → combined TOMREH.

So MOTHER is coded as TOMREH.

Hence, **TOMREH**.

63. Answer: c

Explanation:

The doctor's statement implies waiting a few days for the creatinine level to come to normal — assumption II is directly implicit.

Assumption I states normal level should be lower, but normal is a specific range, not necessarily 'lower' — not strictly implicit.

Per the source key, only assumption II is implicit.

Hence, **Only II is implicit.**

64. Answer: d

Explanation:

Folding the transparent sheet along the dotted line reflects the pattern on one side onto the other.

Per the source key, **D (D)** correctly shows the folded result.

So D is the correct answer.

Hence, **D.**

65. Answer: d

Explanation:

Largest 4-digit number using 3, 7, 0, 9 = 9730 (arrange in decreasing order).

Smallest 4-digit number: cannot start with 0 → smallest is 3079 (0 moves to second place).

Difference = $9730 - 3079 = 6651$.

Hence, **6651**.

66. Answer: a

Explanation:

Pole, Radius of curvature and Principal axis are standard terms related to spherical mirrors and lenses in optics.

Lateral axis is not a standard term in mirror/lens geometry – it does not belong to the group.

So Lateral axis is the odd one out.

Hence, **Lateral axis**.

67. Answer: b

Explanation:

The direction opposite to North-East is South-West.

Pairs of opposite directions: $N \leftrightarrow S$, $E \leftrightarrow W$, $NE \leftrightarrow SW$, $NW \leftrightarrow SE$.

So Ramu is going South-West.

Hence, **South-West**.

68. Answer: d

Explanation:

$$SP = CP \times (1 - \text{loss}\%/100) \rightarrow 144 = CP \times 0.96 \rightarrow CP = 144/0.96 = ₹150.$$

$$\text{New SP} = ₹168. \text{ Profit} = 168 - 150 = ₹18.$$

$$\text{Profit}\% = (18/150) \times 100 = 12\%.$$

Hence, 12.

69. Answer: d

Explanation:

If both ways by car saves 4h $\rightarrow$ car both ways = 13h30m - 4h = 9h30m. So car one way = 4h45m.

$$\text{Bicycle one way} = 13\text{h}30\text{m} - 4\text{h}45\text{m} = 8\text{h}45\text{m}.$$

$$\text{Both ways by bicycle} = 2 \times 8\text{h}45\text{m} = 17\text{h}30\text{m}.$$

Hence, 17 hours 30 minutes.

70. Answer: a

Explanation:

ICSI stands for IntraCytoplasmic Sperm Injection — a specialised form of in vitro fertilisation (IVF).

In ICSI, a single sperm is directly injected into the cytoplasm of an egg using micromanipulation techniques.

GIFT (Gamete Intra-Fallopian Transfer), ZIFT (Zygote Intra-Fallopian Transfer), AID (Artificial Insemination Donor) are different ART techniques.

Hence, ICSI.

71. Answer: b

Explanation:

Adipose (fat) tissue is primarily present in the subcutaneous layer — the layer of tissue just beneath the skin.

Its functions include energy storage, insulation and cushioning of organs.

Skin itself contains some adipose, but it is concentrated in the subcutaneous layer; cartilage and skeletal muscle are different tissue types.

Hence, **Subcutaneous layer**.

72. Answer: c

Explanation:

Statement 1 alone: $M < P$, but O's position unknown — insufficient.

Statement 2 alone: $O > P$, but M's position unknown — insufficient.

Combining: $O > P > M$, so M is shortest. Both together sufficient.

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

73. Answer: c

Explanation:

Molar mass of helium (He) = 4 g/mol.

Number of moles in 52 g = $52 / 4 = 13$ moles.

Per the source answer key, the number of particles indicated is 13 (moles).

Hence, 13.

74. Answer: d

Explanation:

In 12.0543: decimal places from the left after decimal point are tenths (0), hundredths (5), thousandths (4), ten-thousandths (3).

So digit 3 is in the ten-thousandths place.

Place value = $3/10000$.

Hence, $\frac{3}{10000}$.

75. Answer: b

Explanation:

Total weight January = $3 \times 150 = 450$ g.

Total weight February = $5 \times 250 = 1250$ g. Combined total = $450 + 1250 = 1700$ g.

Total packages = $3 + 5 = 8$. Average = $1700/8 = 212.5$ g.

Hence, 212.5 g.

76. Answer: d

Explanation:

The guest said 'These cakes are delicious' while appreciating the cook — this directly supports Conclusion I (guest liked the cakes).

By calling them delicious, the guest also confirms Conclusion II (cook made delicious cakes).

Both conclusions directly follow the statement.

Hence, **Both conclusions follow..**

77. Answer: a

Explanation:

Contact force is the general name for any force that acts between two objects in direct physical contact.

Examples include normal force, friction, tension, applied push/pull — all require physical touching.

Muscular, mechanical and frictional forces are specific types of contact forces.

Hence, **Contact force.**

78. Answer: b

Explanation:

The figure contains overlapping triangles that must be counted carefully.

Per the source key, careful counting of all triangles (small, large and overlapping) yields 7.

So there are 7 triangles in the figure.

Hence, 7.

79. Answer: b

Explanation:

Potential energy $PE = m \times g \times h$.

Substitute: $2000 = 40 \times 10 \times h \rightarrow 2000 = 400h \rightarrow h = 5 \text{ m}$.

So the height is 5 m.

Hence, 5 m.

80. Answer: a

Explanation:

Total work by 32 people $\times$ 12 days = 384 person-days (for full wall).

New workers: 24 at $\frac{1}{3}$ efficiency = $24/3 = 8$ effective workers. Work needed = $\frac{5}{8} \times 384 = 240$ person-days.

Time = $240 / 8 = 30$ days.

Hence, 30 days.

81. Answer: a

Explanation:

Catenation is the unique property of carbon atoms to link with each other through covalent bonds forming long chains, branched chains or rings.

This is possible due to carbon's four valence electrons and small atomic size giving strong C-C bonds.

Catenation gives rise to the vast variety of organic compounds.

Hence, **Catenation**.

82. Answer: b

Explanation:

The stomach secretes hydrochloric acid (HCl) which creates an acidic medium (pH 1.5–3.5).

This acidic environment activates the enzyme pepsin from its inactive form pepsinogen, enabling protein digestion.

Sulphuric and nitric acids are strong but not present in body; acetic acid is in vinegar.

Hence, **Hydrochloric acid**.

83. Answer: d

Explanation:

Hasan Ali, the Pakistani fast bowler, won the ICC Emerging Cricketer of the Year 2017 award.

He had an outstanding year, playing a key role in Pakistan's ICC Champions Trophy 2017 victory.

He was the leading wicket-taker in that tournament.

Hence, Hasan Ali.

84. Answer: d

Explanation:

Per the RRB official key, the marked answer is $x = 5$.

So the smallest positive integer x such that $x\sqrt{2880}$ is an integer per the source answer is 5.

Per source, the answer is 5.

Hence, 5.

85. Answer: d

Explanation:

Thimphu is the capital and largest city of Bhutan, located in the western part of the country.

It is one of the few capitals in the world without traffic lights.

Colombo is Sri Lanka's commercial capital, Canberra is Australia's capital, Kathmandu is Nepal's capital.

Hence, Thimphu.

86. Answer: d

Explanation:

Given $F - S = 21$. Statement I: $(F+5)/(S+5) = 5/2 \rightarrow 2F+10 = 5S+25 \rightarrow 2F = 5S+15$; with $F = S+21$: $2(S+21) = 5S+15 \rightarrow S = 9$. I alone sufficient.

Statement II: $(F+5)+(S+5) = 66 \rightarrow F+S = 56$; with $F-S = 21$: $F = 38.5, S = 17.5$. II alone also sufficient (though non-integer).

Either alone is sufficient.

Hence, Either only statement I or only statement II is sufficient..

87. Answer: c

Explanation:

Apply BODMAS from innermost brackets outward.

$$13 - 5 = 8. 24 \div 8 = 3. 5 - 3 = 2. 6 - 2 = 4.$$

So the value is 4.

Hence, 4.

88. Answer: a

Explanation:

From DEAF = \(\#\@%: D = \backslash\), E = #, A = @, F = %.

From FILE = %!&#: F = %, I = !, L = &, E = # (consistent with first).

FAIL: F = %, A = @, I = !, L = & $\rightarrow$ %@!&.

Hence, %@!&.

89. Answer: c

Explanation:

From 'Writing is fun' and 'Fun things are boring', by transitivity: Writing is boring.
Conclusion 1 follows.

Conclusion 2 (Boring things are fun) is the converse — not necessarily true.

Conclusion 3 (Writing is not boring) directly contradicts conclusion 1 which is valid, so 3 does not follow.

Hence, Only conclusion 1 follows..

90. Answer: d

Explanation:

Work and energy both have the unit of Joule (J) in SI units.

1 Joule = 1 N·m (work done by 1 N force over 1 m displacement).

Force unit is Newton (N) and power unit is Watt (W), so these differ from Joule.

Hence, Work and energy.

91. Answer: a

Explanation:

The Indian Constitution has three lists in the Seventh Schedule: Union List, State List and Concurrent List.

Defence is under the Union List — only the central government can legislate on it.

Police and agriculture are State List subjects; forests are under the Concurrent List.

Hence, **Defence**.

92. Answer: c

Explanation:

Let frequencies be f_1 and f_2 . Combined mean = $(8f_1 + 15f_2)/(f_1 + f_2) = 12.5$.

$$8f_1 + 15f_2 = 12.5f_1 + 12.5f_2 \rightarrow 2.5f_2 = 4.5f_1 \rightarrow f_1/f_2 = 2.5/4.5 = 5/9.$$

So $f_1 : f_2 = 5 : 9$.

Hence, **5 : 9**.

93. Answer: b

Explanation:

Differences: $16-10=6$, $25-16=9$, $37-25=12$ — each difference increases by 3.

Next difference = $12+3 = 15$. So next term = $37+15 = 52$.

Hence, **52**.

94. Answer: d

Explanation:

A cell provides the electrical energy needed for current to flow in a complete circuit.

A complete circuit requires a source of electrical energy, connecting wires, and

other components.

Therefore, the correct answer is Cell (सेल).

Correct Answer: 4. Cell (सेल)

Hence, Cell.

95. Answer: b

Explanation:

The Electoral Bond scheme was introduced by the Government of India in January 2018 to make political funding more transparent.

These bonds can be bought by individuals or companies from State Bank of India and donated to registered political parties.

Masala Bonds are rupee-denominated international bonds; Sovereign Bonds are government debt.

Hence, Electoral Bond.

96. Answer: b

Explanation:

The Ministry of Railways launched Mission Retro-Fitment in 2017 to modernise existing older coaches with upgraded facilities.

Under this mission, older ICF (Integral Coach Factory) coaches were retro-fitted to LHB (Linke Hofmann Busch) standards or given upgrades.

The aim was to improve passenger safety, comfort and aesthetic appeal.

Hence, Railways.

97. Answer: a

Explanation:

Find the largest perfect square less than or equal to 2800.

$\sqrt{2800} \approx 52.9$. Try $52^2 = 2704$ and $53^2 = 2809$. $53^2 > 2800$, so largest perfect square ≤ 2800 is $52^2 = 2704$.

Smallest number to subtract = $2800 - 2704 = 96$.

Hence, 96.

98. Answer: a

Explanation:

The series follows a transformation rule.

Per the source key, A (A) correctly completes the series pattern.

So A is the next figure.

Hence, A.

99. Answer: b

Explanation:

Days from 11 Oct 2018 to 23 Feb 2019: Oct remaining = 20; Nov = 30; Dec = 31; Jan = 31; Feb up to 23 = 23. Total = $20+30+31+31+23 = 135$ days.

$135 \div 7 = 19$ weeks + 2 days.

Thursday + 2 days = Saturday.

Hence, **Saturday**.

100. **Answer: d**

Explanation:

Speed is a scalar quantity — it has only magnitude, not direction.

Only velocity (and motion) has direction, not speed.

So saying 'direction of both speed and motion' is incorrect because speed has no direction.

Hence, **Direction of both speed and motion**.

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