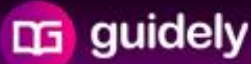


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### General Awareness

**1) Where is the Sanchi Stupa located?**

- a) Bhopal, Madhya Pradesh
- b) Nagpur, Maharashtra
- c) Chennai, Tamil Nadu
- d) Kolkata, West-Bengal

**Answer: A**

The Great Stupa at Sanchi is one of the oldest stone structures in India, and an important monument of Indian Architecture. It is located in 46 kilometres north-east of Bhopal, capital of Madhya Pradesh.

**2) Ranakpur Jain temple is located in which state?**

- a) Uttar Pradesh
- b) Jharkhand
- c) Gujarat
- d) Rajasthan

**Answer: D**

Ranakpur Jain temple is a Svetambara Jain temple at Ranakpur which is dedicated to Tirthankara Rishabhanatha. The temple is located in a village of Ranakpur near Sadri town in the Pali district of Rajasthan.

**3) Who is the father of Indian Cinema?**

- a) Dadasaheb Phalke
- b) Raghupathi Venkaiah Naidu

c) Jamshedji Framji Madan

d) Nataraja Mudaliar

**Answer: A**

The Father of Indian cinema Dadasaheb was one of the most eminent producer, directors and screenwriters in the history of Indian film industry. He is considered as the father of Indian cinema because of his debut movie Raja Harishchandra which was released in 1913.

**4) When was the first round table conference started?**

- a) November 12, 1930
- b) December 10, 1931
- c) January 22, 1930
- d) August 13, 1935

**Answer: A**

First Round Table Conference was first among the three such conferences organized between 1930 and 1932 by British government. It was officially inaugurated on November 12, 1930 at House of Lords at London by the British King (George V) and was chaired by then British Prime Minister Ramsay MacDonald.

**5) Who is the present CEO of Apple?**

- a) Garo H. Armen

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- b) Devin Wenig
- c) Tim Cook
- d) Mark Hurd

**Answer: C**

Timothy Donald Cook is an American business executive, philanthropist and engineer. Cook is the chief executive officer of Apple Inc., and previously served as the company's chief operating officer under its cofounder Steve Jobs.

**6) What is the full form of SLR?**

- a) Statutory Liquidity Ratio
- b) Statutory Liquid Ratio
- c) Static Liquidity Ratio
- d) Stable Liquidity Relation

**Answer: A**

SLR or statutory liquidity ratio is the minimum percentage of deposits that a bank has to maintain in form of gold, cash or other approved securities.

**7) What is secreted in the Liver of humans?**

- a) Pepsin
- b) Bile juice
- c) Rennin
- d) Hydrochloric acid

**Answer: B**

Bile is a fluid that is made and released by the liver and stored in the gallbladder. It helps with digestion. It breaks down fats into fatty acids, which can be taken into the body by the digestive tract.

**8) Ban-ki-Moon is related to which country?**

- a) Benin
- b) South-Korea
- c) China
- d) Cameroon

**Answer: B**

Ban Ki-Moon is a South Korean diplomat and politician, who served as the eighth secretary-general of the United Nations (UN).

**9) Who is the Prime Minister of Nepal?**

- a) Sher Bahadur Deuba
- b) Pushpa Kamal Dahal
- c) KP Sharma Oli
- d) Sushil Koirala

**Answer: C**

Khadga Prasad Sharma Oli is a Nepalese politician and the current Prime Minister of Nepal. He previously served as Prime Minister from 11 October 2015 to 3 August 2016 and was the first elected PM under the newly adopted Constitution of Nepal.

**10) Who won the women's singles title of US Open 2020?**

- a) Naomi Osaka
- b) Victoria Azarenka
- c) Sofia Kenin
- d) Johanna Konta

**Answer: A**

Naomi Osaka defeated Victoria Azarenka to win the Women's Singles tennis title at the 2020 US

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Open. This was her second US Open title and third major overall.

**11) When is World computer literacy day observed?**

- a) 2<sup>nd</sup> December
- b) 5<sup>th</sup> May
- c) 9<sup>th</sup> January
- d) 3<sup>rd</sup> October

**Answer: A**

Every year, the World Computer Literacy Day is observed on December 2 to create awareness and drive digital literacy in underserved communities worldwide.

**12) What is the full form of EPROM?**

- a) erasable programmable read-only memory
- b) easy programming read-only memory
- c) erasable program read-only memory
- d) erasable programmable review-only memory

**Answer: A**

EPROM (erasable programmable read-only memory) is programmable read-only memory (programmable ROM) that can be erased and reused. Erasure is caused by shining an intense ultraviolet light through a window that is designed into the memory chip.

**13) Which among the following is the fundamental building block of CPU used to perform arithmetic and logic operations?**

- a) Calculator
- b) Registers

c) ALU

d) CU

**Answer: C**

An arithmetic logic unit (ALU) is a digital circuit used to perform arithmetic and logic operations. It represents the fundamental building block of the central processing unit (CPU) of a computer. It is a major component of the central processing unit of a computer system.

**14) Who is the CM of Rajasthan?**

- a) Pema Khandu
- b) Sarbananda Sonowal
- c) Nitish Kumar
- d) Ashok Gehlot

**Answer: D**

Ashok Gehlot is an Indian politician serving as the current Chief Minister of Rajasthan. He represents Sardarpura constituency of Jodhpur as Member of Legislative Assembly of Rajasthan.

**15) Who is the Prime Minister of Singapore?**

- a) Lee Hsien Loong
- b) Andrew Holness
- c) Justin Trudeau
- d) Scott Morrison

**Answer: A**

Lee Hsien Loong is a Singaporean politician. He is an elected Member of Parliament and serving as Prime Minister of Singapore and secretary-general of the People's Action Party since 2004.

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16) When was the name of the State bank changed from the Imperial bank of India?

- a) June 1951
- b) July 1955
- c) May 1952
- d) August 1950

**Answer: B**

As per the provisions of the State Bank of India Act of 1955, the Reserve Bank of India, which is India's central bank, acquired a controlling interest in the Imperial Bank of India. On 1 July 1955, the Imperial Bank of India became the State Bank of India.

17) National Highway 2 connects which two places?

- a) Delhi and Kolkata
- b) Hazira to Kolkata
- c) Behragoda to Chennai
- d) Varanasi to Kanyakumari

**Answer: A**

National Highway 2 (NH 2), commonly referred as Delhi-Kolkata Road is a busy Indian National Highway that runs through the states of Delhi, Haryana, Uttar Pradesh, Bihar, Jharkhand, and West Bengal. It constitute a major portion of historical Grand Trunk Road along with NH 91.

18) Motera Stadium is located in which state?

- a) Andhra Pradesh
- b) Rajasthan
- c) Gujarat

d) Bihar

**Answer: C**

The Motera Stadium is a cricket stadium in Ahmedabad, Gujarat, India. As of 2020, it is the largest cricket stadium in the world and the second largest stadium overall, with a seating capacity of 110,000 spectators.

19) What is the Valency of carbon?

- a) 4
- b) 7
- c) 3
- d) 5

**Answer: A**

The valency of carbon is four and one atom of carbon can make four covalent bonds.

20) What is the chemical formula of Methane?

- a)  $\text{CH}_3\text{COOH}$
- b)  $\text{CH}_4$
- c)  $\text{CHCl}_3$
- d)  $\text{C}_2\text{H}_5\text{OH}$

**Answer: B**

Methane is a chemical compound with the chemical formula  $\text{CH}_4$ . It is the simplest alkane, and is the main constituent of natural gas.

21) What is the chemical formula for slaked lime?

- a)  $\text{Mg}(\text{OH})_2$
- b)  $(\text{NH}_4)_2\text{SO}_4$
- c)  $\text{Ca}(\text{OH})_2$
- d)  $\text{Na}_2\text{S}$

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**Answer: C**

Calcium hydroxide traditionally called slaked lime is an inorganic compound with the chemical formula  $\text{Ca}(\text{OH})_2$ . It is a colorless crystal or white powder and is produced when quicklime (calcium oxide) is mixed, or slaked with water.

**22) The Battle of Plassey was fought in which year?**

- a) 1757
- b) 1755
- c) 1759
- d) 1961

**Answer: A**

The Battle of Plassey was a decisive victory of the British East India Company over the Nawab of Bengal and his French allies on 22 June 1757, under the leadership of Robert Clive. The battle took place at Palashi on the banks of the Hooghly River, about 150 kilometres north of Calcutta and south of Murshidabad, then capital of Bengal.

**23) What is the full form of CAB?**

- a) Citizenship Amendment Bill
- b) Citizen Amendment Bill
- c) Citizenhip Alteration Bill
- d) Common Amendment Bill

**Answer: A**

The Citizenship Amendment Act (Bill) protests, also known as CAA Protest or CAB Protest, occurred after the Citizenship Amendment Act (CAA) was

enacted by the Government of India on 12 December 2019.

**24) When was Atomic Energy Agency established?**

- a) 1955
- b) 1945
- c) 1967
- d) 1957

**Answer: D**

The International Atomic Energy Agency is an international organization that seeks to promote the peaceful use of nuclear energy. The IAEA was established as an autonomous organisation on 29 July 1957.

**25) What is the establishment year of Uttarakhand and Jharkand?**

- a) 2004
- b) 1999
- c) 2000
- d) 2002

**Answer: C**

The states of Chhattisgarh, Uttarakhand and Jharkhand were formed on November 1, November 9 and November 15, 2000, respectively.

**26) Who is the National Animal of Nepal?**

- a) Snow leopard
- b) Eagle
- c) Red kangaroo
- d) Cow

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**Answer: D**

The National symbol of Nepal, Cow was declared as the national animal of Nepal in 2015.

**27) Oil Lamp works on which principle?**

- a) Capillarity
- b) Buoyant Force
- c) Viscosity
- d) Surface-Tension

**Answer: A**

Oil lamp stays lighted because of capillary action. It is actually the capillary action of the wick which maintains constant supply of oil to keep the flame glowing.

**28) Modern Generator works on which principle?**

- a) Faraday's law
- b) Electromagnetic Induction
- c) Doppler Effect
- d) Archimedes Principle

**Answer: B**

The modern-day generator works on the principle of electromagnetic induction discovered by Michael Faraday in 1831-32.

**29) Which article of Indian constitution give provision for the establishment of an Inter-State Council?**

- a) Article 356
- b) Article 263
- c) Article 268
- d) Article 361

**Answer: B**

Article 263 of Indian constitution give provision for the establishment of an Inter-State Council. This is to enhance the coordination between the Center and States.

**30) Which mountain is known as Blue Mountain?**

- a) Nilgiri Mountain
- b) Kanchenjunga
- c) Mukut Parbat
- d) Sri Kailash

**Answer: A**

Nilgiri Hills which are situated in the Western Ghats, are called as the 'Blue Mountains' for the bluish hue in their fine natural setting.

**31) Who was the Indian flag bearer in the 2018 ASIAN Games?**

- a) Tajinderpal Singh Toor
- b) Neeraj Chopra
- c) Ravi Sarnobat
- d) Hima Das

**Answer: B**

Neeraj Chopra was the flag bearer for the opening ceremony in the 2018 ASIAN Games while Rani Rampal was named as the flag bearer for the closing ceremony.

**32) Who won the Australian Open 2020 women's trophy?**

- a) Sofia Kenin

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- b) Garbine Muguruza
- c) Naomi Osaka
- d) Victoria Azarenka

**Answer: A**

Sofia Kenin won her first Grand Slam title, defeating Garbine Muguruza. Kenin became the first American woman, other than Serena Williams, to win the Australian Open women's singles title since Jennifer Capriati in 2002.

**33) What is Blood?**

- a) connective tissue
- b) epithelial tissue
- c) muscle tissue
- d) nervous tissue

**Answer: A**

Blood is the specialized connective tissue within the circulatory system that transports blood cells and dissolved substances throughout the body via blood vessels. It has cellular and extracellular components. The extracellular matrix of the blood is called blood plasma.

**34) Which among the following Governor-General started the Subsidiary alliance system to achieve British paramountcy in India?**

- a) Lord Curzon
- b) Lord Mayo
- c) Lord Wellesley
- d) Lord Canning

**Answer: C**

The Subsidiary Alliance System was “Non-Intervention Policy” used by Lord Wellesley who was the Governor-General to establish British Empire in India. According to this system, every ruler in India had to accept to pay a subsidy to the British for the maintenance of British army.

**35) Who founded the Swatantra Party?**

- a) Abaas Tyabji
- b) Jawahar Lal Nehru
- c) Sardar Vallabhai Patel
- d) C. Rajagopalachari

**Answer: D**

The Swatantra Party was an Indian classical liberal political party, that existed from 1959 to 1974. It was founded by C. Rajagopalachari.

**36) “My mother at sixty-six” is authored by whom?**

- a) Arundhati Roy
- b) Jhumpa Lahiri
- c) Kamala Das
- d) Kiran Desai

**Answer: C**

My mother at sixty six is written by Kamala Das who is famous for capturing complexities of human relationships. The poem my mother at sixty six is one of the finest examples of the human bonding, especially that of a mother and daughter.

**37) Who among the following is the Founder of Micro Economics?**

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- a) Adam Smith
- b) Karl Marx
- c) John Maynard Keynes
- d) Alfred Marshall

**Answer: D**

Microeconomics is the study of the behaviour of individuals and small impacting organisations in making decisions on the allocation of limited resources. He is the founder of microeconomics.

**38) The Bhabha Atomic Research Centre was established in which year?**

- a) 1957
- b) 1954
- c) 1959
- d) 1951

**Answer: B**

The Bhabha Atomic Research Centre is India's premier nuclear research facility, headquartered in Trombay, Mumbai, Maharashtra. The Government of India created the Atomic Energy Establishment, Trombay with Homi J. Bhabha as the founding director on 3 January 1954.

**39) Lavani dance originated from which state?**

- a) Uttar Pradesh
- b) Bihar
- c) Maharastra
- d) Jharkhand

**Answer: C**

Lavani is a genre of music popular in Maharashtra, India. It is noted for its powerful rhythm. Lavani has contributed substantially to the development of Marathi folk theatre.

**40) When did India adopted its national flag?**

- a) 22 July 1947
- b) 18 August 1951
- c) 15 January 1955
- d) 11 December 1945

**Answer: A**

The National Flag of India was adopted in its present form during the meeting of Constituent Assembly held on the 22 July 1947, a few days before India's independence from the British on 15 August, 1947.

### Logical reasoning

1. Select the option that is related to the third term in the same way as the second term is related to the first term.

RABBIT : ITYYAR :: YELLOW : ?

- a) OWOOEY
- b) WOOOEY
- c) OWOEYO
- d) OWOOYE

**Answer: A)**

The pattern followed here is:

RABBIT : ITYYAR – 5<sup>th</sup> and 6<sup>th</sup> term becomes 1<sup>st</sup> and 2<sup>nd</sup> term respectively, 3<sup>rd</sup> and 4<sup>th</sup> term is replace by its reverse alphabet and 1<sup>st</sup> and 2<sup>nd</sup> term becomes 6<sup>th</sup> and 5<sup>th</sup> term respectively.



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Similarly, YELLOW - OWOOEY

2. Select the option that is related to the third term in the same way as the second term is related to the first term.

$$63 : 8 :: ? : 13$$

- a) 144
- b) 132
- c) 168
- d) 169

Answer: C)

The pattern followed here is:

$$63 : 8 \rightarrow 8^2 - 1 : 8$$

Similarly,

$$? : 13 \rightarrow 13^2 - 1 : 13$$

$$\Rightarrow ? = 168$$

3. Read the given statements and conclusions carefully and choose which of the statements logically follows the conclusions.

**Statement:**

We should develop our traditional weaving methods by promoting handicraft.

**Conclusions:**

- I. There are various traditional weaving methods.
  - II. Handicraft products are not affordable for the general public.
- a) No conclusion follows.
  - b) Both conclusions follow.
  - c) Only conclusion I follows
  - d) Only conclusion II follows.

Answer: C)

4. Three of the four options below are related in a particular way. Choose an option that is different or mismatched from the others.

- a) Tweet
- b) Chat
- c) Scream
- d) Snake

Answer: D)

Tweet, Chat and Scream can be used to share message or information.

While snake is the name of an animal.

5. Raj, Rohan, Gourav, Amita and Puja are sitting on a bench. Raj is sitting next to Rohan, Gourav is sitting next to Amita, Amita is not sitting with Puja who is on the left end of the bench. Gourav is on the second position from the right. Raj is to the right of Rohan and Puja. Raj and Gourav are sitting together. In which position Raj is sitting?

- a) Between Rohan and Amita
- b) Between Rohan and Gourav
- c) Between Puja and Amita
- d) Between Gourav and Puja

Answer: B)

As, nothing is given, in general we consider all the persons are facing north.

The arrangement is as follows:

Puja      Rohan      Raj      Gourav      Amita

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6. Find the next term in the series.

53, 87, 200, 204, 224, ?

- a) 244
- b) 214
- c) 254
- d) 248

Answer: D)

The logic followed is:

53

$$53 + 5^2 + 3^2 = 53 + 25 + 9 = 87$$

$$87 + 8^2 + 7^2 = 87 + 64 + 49 = 200$$

$$200 + 2^2 = 200 + 4 = 204$$

$$204 + 2^2 + 4^2 = 204 + 4 + 16 = 224$$

$$224 + 2^2 + 2^2 + 4^2 = 224 + 4 + 4 + 16 = \mathbf{248}$$

7. X, Y, Z, R, S, U, and V are sitting in a row facing North. U is to the immediate right of S. S is 4<sup>th</sup> to the right of V. Z is the neighbor of Y and R. Person who is third to the left of R is at one of the corners. X is at the extreme right corner. Who is to the left of Y?

- a) Only Z
- b) X, Z and R
- c) R and V
- d) Only V

Answer: D)

V Y Z R S U X

8. Find the missing number.

18	23	414
16	?	240
7	23	161

a) 15

b) 20

c) 12

d) 10

Answer: A)

$$\text{Row 1: } 18 \times 23 = 414$$

$$\text{Row 3: } 7 \times 23 = 161$$

$$\text{Row 2: } 16 \times ? = 240$$

$$\Rightarrow ? = 240 \div 16$$

$$\Rightarrow ? = \mathbf{15}$$

9. Select the option that is related to the third term in the same way as the second term is related to the first term.

Book : Chapter :: Car : ?

- a) Sharing
- b) Steering
- c) Cockpit
- d) Pedal

Answer: B)

Book has chapters.

Similarly,

Car has steering.

10. Read the statement and identify the logical conclusion based on the given information.

**Statement:**

A teacher told a parent, "This child needs to be counselled for his bad behavior."

**Conclusion:**

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I. Counseling is one of the ways to correct behavioral problems.

II. Counseling is the only way to correct the behavior.

- a) Only conclusion II is correct
- b) Both I and II are true
- c) Only conclusion I follows
- d) Neither conclusion I nor II is correct

Answer: C)

11. In a family of eight persons, there are two couples each having two children. The number of males and females in the family is equal. S is brother-in-law of Q who is mother of B and P. T is niece of A. D and T are sisters. L is wife of S. How is A related to Q?

- a) Wife
- b) Husband
- c) Mother
- d) Father

Answer: B)

Q is mother of B and P.

T and D are sisters. T is niece of A which means A is not a guardian of T and D, i.e, the other couple is parent of T and D.

L is wife of S, so only A is left.

Therefore, A is husband of Q.

12. What will be the value of the following equation if

'+' means 'x', '÷' means '-', '-' means '÷' and 'x' means '+'?

32 - 8 × 16 ÷ 4 + 2

$$32 - 8 \times 16 \div 4 + 2$$

a) 12

b) 16

c) 4

d) 18

Answer: A)

+	÷	-	×
×	-	÷	+

Given equation:  $32 - 8 \times 16 \div 4 + 2$

After changing symbols, equation become:  $32 \div 8 +$

$$16 - 4 \times 2$$

$$= 4 + 16 - 8$$

$$= 20 - 8$$

$$= 12$$

13. You have to decide which of these assumptions are implicit in the statement, considering the statement and the assumptions given thereafter.

**Statement:**

I cannot contact you by e-mail from Krishna's house.

**Assumptions:**

I. Internet facility is not available at Krishna's house.

II. Nowadays it has become difficult to contact people on e-mail.

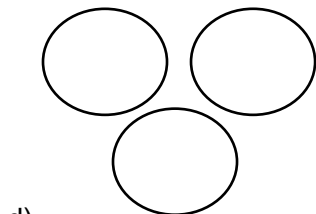
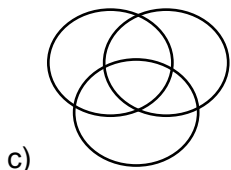
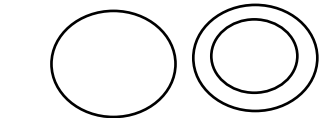
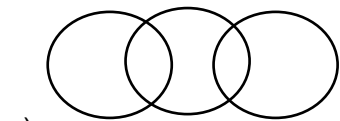
- a) Only assumption I is implicit
- b) Only assumption II is implicit
- c) Neither assumption I nor II is implicit
- d) Either assumption I or II is implicit

Answer: I

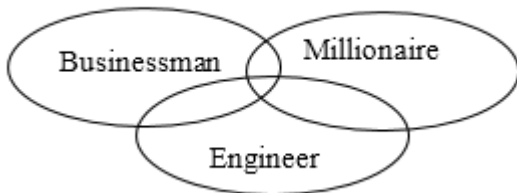
14. Identify the diagram that best represents the relationship among the given classes.

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Businessman, Engineer, Millionaire



Answer: C)



15. Two statements are given followed by three conclusion numbered I, II and III. Assuming the statements to be true, even they seem to be at variance with commonly known facts decided which of the conclusions logically follow from statement.

**Statement:**

No zero is prime

Some odd are zero

**Conclusion:**

I. Some prime are odd

II. Some zero are not odd

III. Some zero are odd

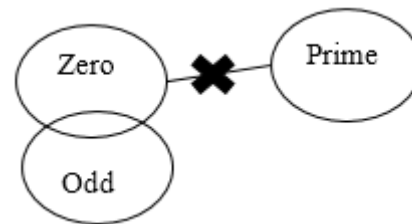
a) Only II follows

b) Either II or III follows

c) Only III follows

d) All follows

Answer: C)



I. Some prime are odd - False

II. Some zero are not odd - False

III. Some zero are odd - True

**Direction (16 – 18):** Read the given information and answer the questions given below:

There is a family of six persons – P, Q, R, S, T and U. They are – Fashion Designer, Student, Teacher, Engineer, Lawyer and Doctor but not necessarily in the same order. There is only one married couple in the family and the family consists of three generations.

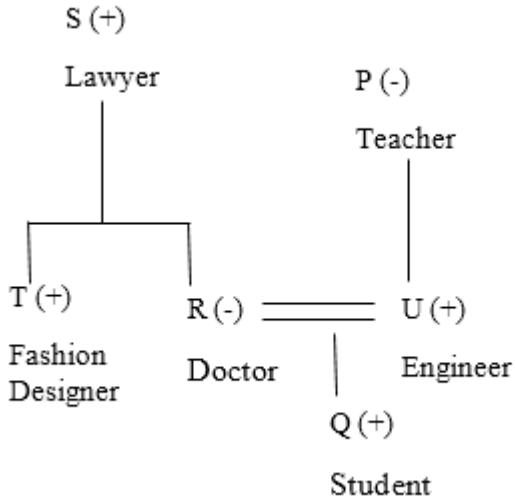
Doctor is married to Engineer and they have a son. P is the paternal grandmother of Q. T is brother-in-law of U and son of Lawyer. T is not married and his sister is a Doctor by profession. S is neither a Teacher nor a Doctor by profession. The person who is Fashion Designer is a bachelor.

16. Who among the following is an Engineer by profession?

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- a) R
- b) S
- c) T
- d) U

Answer: D)



17. How is S related to Q?

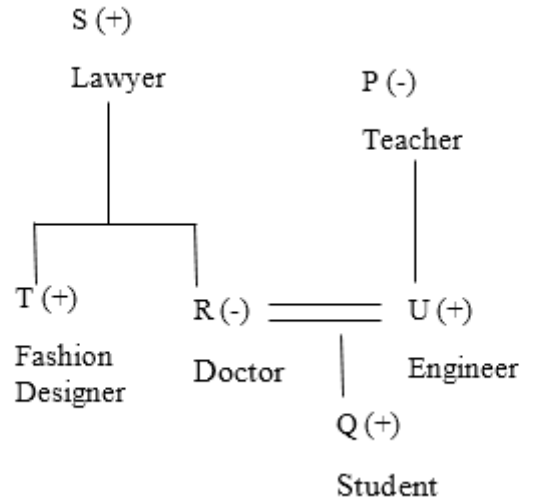
- a) Paternal Grandfather
- b) Maternal Grandfather
- c) Paternal Grandmother
- d) Paternal Grandmother

Answer: B)

18. How is R related to P?

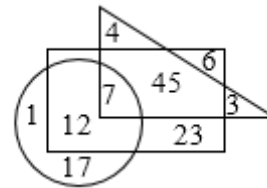
- a) Mother-in-law
- b) Sister-in-law
- c) Daughter-in-law
- d) Son-in-law

Answer: C)



**Direction (19 – 21):** Read the given information and answer the questions given below:

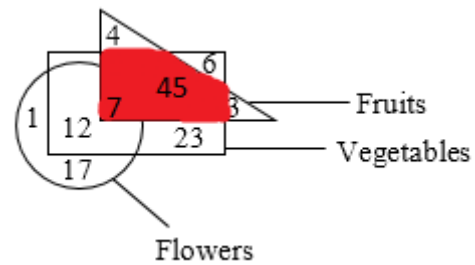
If triangle represents fruits, circle represents flowers and rectangle represents vegetables, then:



19. Find the number of fruits that are vegetables.

- a) 47
- b) 45
- c) 38
- d) 52

Answer: D)



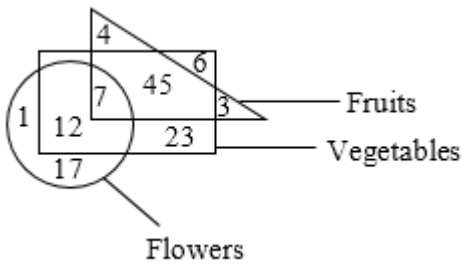
The number of fruits that are vegetables = 45 + 7 = 52.

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20. How many flowers are fruits but not vegetables?

- a) 12
- b) 7
- c) 0
- d) 19

Answer: C)

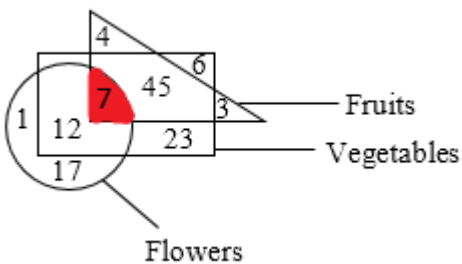


0 flowers are fruits but not vegetables.

21. How many vegetables are both fruits and flowers?

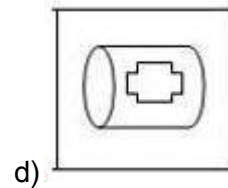
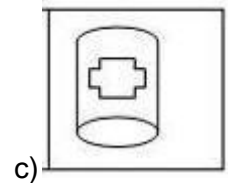
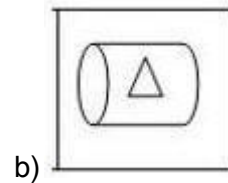
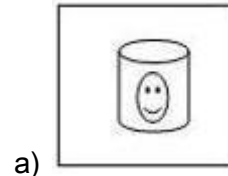
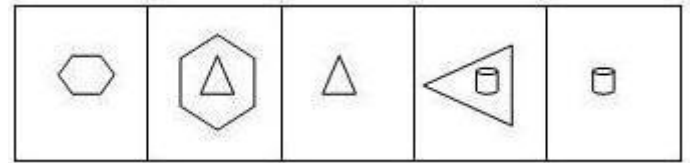
- a) 1
- b) 12
- c) 17
- d) 7

Answer: D)

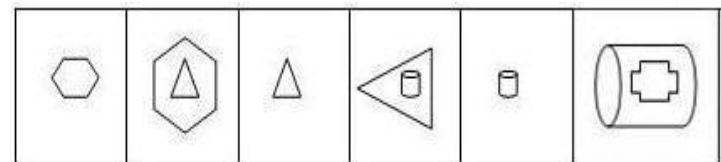


7 vegetables are both fruits and flowers.

22. Select the figure that will come next in the following figure series.



Answer: D)



23. Read the given statements and conclusions and decide which of the following conclusions logically follow the statement.

**Statements:**

- I. All leopards are lions.
- II. Some tigers are leopards.

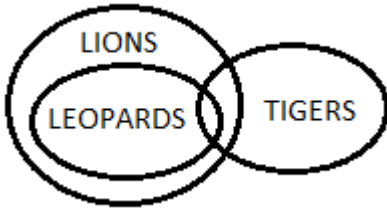
**Conclusions:**

- I. Some tigers are lions.
- II. No lion is tiger

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- a) Both conclusions follow
- b) Only I follows
- c) Neither conclusion I nor conclusion II follows
- d) Only II follows

Answer: B)



- I. Some tigers are lions. - True
- II. No lion is tiger - False

24. If in a certain code language, PLANT is coded as QMBOU, then in that code language what will be the code for TOYOTA?

- a) PUZUBP
- b) UPZPUB
- c) UPSZPU
- d) ZPUBPU

Answer: B)

P + 1 = Q	T + 1 = U
L + 1 = M	O + 1 = P
A + 1 = B	Y + 1 = Z
N + 1 = M	O + 1 = P
T + 1 = U	T + 1 = U
	A + 1 = B

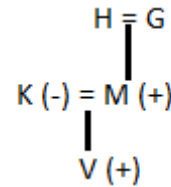
25. V is the son of K and M. M is the son of H and G.

H and G are \_\_\_\_\_ of V.

- a) Mother-Father
- b) Grandmother-Grandfather

- c) Uncle
- d) Grandmother-Grandfather (Maternal)

Answer: B)



H and G are Grandmother-Grandfather of V.

26. Arrange the following words in the sequence as they appear in English dictionary order.

1. Determined
  2. Disturbed
  3. Desperate
  4. Diversion
  5. Diminished
  6. Delusion
- a) 6, 1, 3, 2, 5, 4
  - b) 6, 3, 1, 2, 5, 4
  - c) 6, 3, 1, 5, 2, 4
  - d) 6, 1, 3, 5, 2, 4

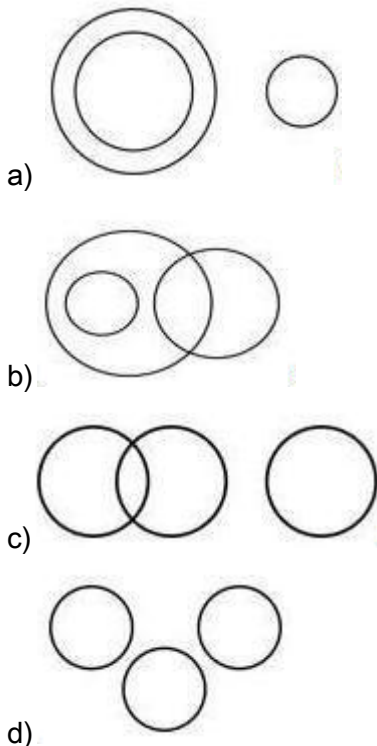
Answer: C)

6. **Delusion**
3. **Desperate**
1. **Determined**
5. **Diminished**
2. **Disturbed**
4. **Diversion**

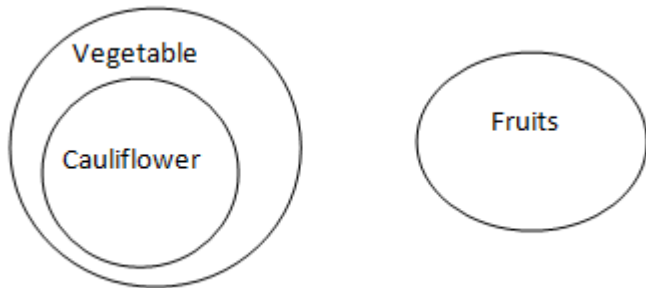
27. Identify the diagram that best represents the relationship among the given classes.

Banana, Vegetables, Cauliflower

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Answer: A)



28. Select the set in which the numbers are related in the same way as are the numbers in the following set.

(64, 25, 4)

- a) (16, 36, 81)
- b) (123, 84, 63)
- c) (25, 169, 144)
- d) (173, 156, 198)

Answer: B)

$64 - 39 = 25; 25 - 21 = 4$

Similarly,

$123 - 39 = 84; 84 - 21 = 63$

29. Consider the given statement and decide which of the given assumptions is implicit in the given statement.

**Statement:**

An advertisement in the newspaper - Managing Director of Bank XYZ said, "We do not send messages to customers nor make calls to make any corrections, updates to bank account details".

**Assumption:**

- I. People are getting fake calls for stealing bank account details
- II. Bank officials call customers to change ATM PIN

- a) Neither I nor II is implicit
- b) Only I is implicit
- c) Only II is implicit
- d) Either I or II is implicit

Answer: B)

30. Which two signs should be interchanges in the following equation to make it correct?

$10 + 16 - 60 \times 20 \div 4 = 965$

- a) + and -
- b) - and  $\times$
- c)  $\div$  and +
- d) + and  $\times$

Answer: B)

$10 + 16 - 60 \times 20 \div 4 = 965$

- b) - and  $\times$



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$$10 + 16 \times 60 - 20 \div 4$$

$$10 + 960 - 5$$

$$970 - 5$$

$$965$$

**Mathematics**

1. If  $m + n = 1$ , then the value of  $m^3 + n^3 + 3mn$  is equal to

- a) 0
- b) 1
- c) 2
- d) 3

Answer: B

$$m + n = 1$$

$$m^3 + n^3 + 3mn(m + n) = 1^3 = 1$$

$$m^3 + n^3 + 3mn = 1$$

2. In a triangle ABC, the length of in-radius and circum-radius is 2 units and 6 units respectively. Find the distance (in units) between the in-centre and circumcentre.

- a)  $\sqrt{3}$
- b)  $2\sqrt{3}$
- c)  $3\sqrt{3}$
- d)  $4\sqrt{3}$

Answer: B

$$\text{Circum-radius} = R = 6 \text{ units}$$

$$\text{In-radius} = r = 2 \text{ units}$$

$$d^2 = R(R - 2r) = 6(6 - 4) = 12$$

$$\therefore d = 2\sqrt{3} \text{ units}$$

3. The length of a median of an equilateral triangle is  $12\sqrt{3}$  cm. Then the area of the triangle is:

- a) 144 sq. cm
- b)  $288\sqrt{3}$  sq. cm
- c)  $144\sqrt{3}$  sq. cm
- d) 288 sq. cm

Answer: C

$$\text{Length of median} = (\sqrt{3}a)/2 = 12\sqrt{3}$$

$$\text{So, } a = 24$$

$$\text{Area} = \sqrt{3}/4 \times 24^2 = 144\sqrt{3} \text{ sq. cm}$$

4. If  $3a = 4b = 6c$  and  $a + b + c = 27\sqrt{29}$ , then  $\sqrt{(a^2 + b^2 + c^2)}$  is equal to

- a) 87
- b)  $3\sqrt{29}$
- c) 82
- d) 83

Answer: A

$$a/4 = b/3 = c/2 = k$$

According to question,

$$9k = 27\sqrt{29}$$

$$\text{So, } k = 3\sqrt{29}$$

$$\therefore \sqrt{(a^2 + b^2 + c^2)} = 3\sqrt{29}\sqrt{(16+9+4)} = 87$$

5. Two pipes A and B can fill an empty tank in 10 hours and 15 hours respectively. Pipe C alone can empty the completely filled tank in 12 hours. First both pipes A and B are opened and after 5 hours pipe C is also opened. What is the total time (in hours) in which the tank will be filled?

- a) 7
- b) 5
- c) 9
- d) 8

Answer: A

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Total work done in 5 hours =  $(1/10 + 1/15) \times 5 = \frac{1}{2} + \frac{1}{3} = \frac{5}{6}$

Only  $1/6$  of the tank is left to be filled

Now when pipe C is opened, 1 hour work =  $1/10 + 1/15 - 1/12 = 1/12$

Time taken to fill  $1/6^{\text{th}}$  of tank =  $1/6 \times 12 = 2$  hours

Total time taken =  $5 + 2 = 7$  hours

6. If  $a + 1/a = 1$ , then find the value of  $(a^2 - a + 1)/(a^2 + a + 1)$

- a) 1
- b) -1
- c) 0
- d) 2

Answer: C

$$a + 1/a = 1$$

$$\Rightarrow a^2 - a + 1 = 0$$

$$\Rightarrow (a^2 - a + 1)/(a^2 + a + 1) = (0)/(a^2 + a - 1) = 0$$

7. If an interior angle of a regular polygon is  $170^\circ$ , then the number of sides in the polygon is

- a) 36
- b) 20
- c) 18
- d) 27

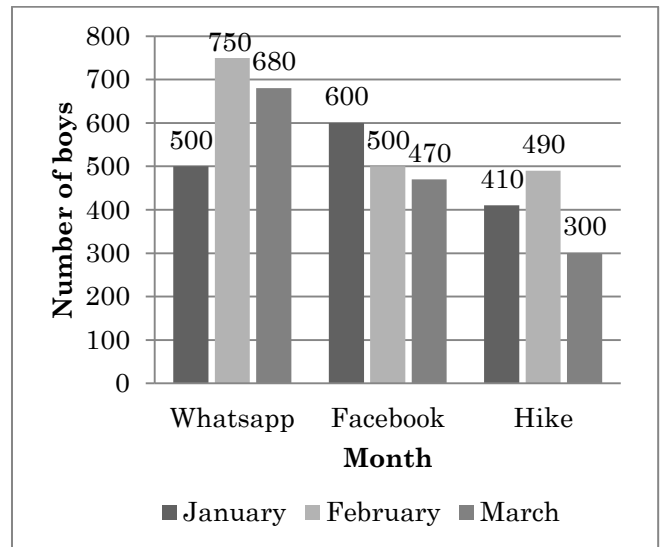
Answer: A

$$170 = (n-2)/n \times 180$$

$$17n = 18n - 36$$

$$\Rightarrow n = 36$$

Direction (8-12): The bar graph given below represents the number of boys in a school using three apps for three months.



8. Number of boys using Whatsapp in March is what percent of number of boys using Facebook in February?

- a) 126.47
- b) 136
- c) 128
- d) 131.3

Answer: B

No. of boys using Whatsapp in March = 680

No. of boys using Facebook in February = 500

$$\therefore \text{Required \%} = \frac{680}{500} \times 100 = 136\%$$

9. What is the percentage decrease in number of boys using Facebook from January to February?

- a) 26.66
- b) 20
- c) 21.33
- d) 16.66

Answer: D

No. of boys using Facebook in January = 600

No. of boys using Facebook in February = 500

$$\therefore \% \text{ decrease} = \frac{600 - 500}{600} \times 100 = 16.66\%$$

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10. Number of boys using Whatsapp in February is how much percent more than the number of boys using Facebook in February?

- a) 50
- b) 33.33
- c) 66.66
- d) 44.22

Answer: A

No. of boys using Whatsapp in February = 750

No. of boys using Facebook in February = 500

∴ Required % =  $(750-500)/500 \times 100 = 50\%$

11. What is the total number of boys using the three apps in month of March?

- a) 1420
- b) 1480
- c) 1450
- d) 1500

Answer: C

Total number of boys using apps in March = 680 + 470 + 300 = 1450

∴ Total no. of boys using apps in March = 1450

12. If  $x^2 - 2x + 1 = 0$ , then the value of  $x^4 + 1/x^4$  is

:-

- a) 0
- b) 1
- c) 2
- d) 3

Answer: C

$$x^2 - 2x + 1 = 0$$

$$\Rightarrow x + 1/x = 2$$

$$\Rightarrow x^2 + 1/x^2 = 2$$

Square both side

$$\Rightarrow x^4 + 1/x^4 = 2$$

13. 0.1 percent of  $1.728 \times 10^6$  spherical droplets of water, each of diameter 2 mm, coalesce to form a spherical bubble. Find out diameter of spherical bubble?

- a) 1.2
- b) 1.6
- c) 1.8
- d) 2.4

Answer: D

$$0.1 \times 1.728 \times 10^6 \times \frac{4}{3} \pi \times \left[\frac{1}{10}\right]^3 = \frac{4}{3} \pi \times R^3$$

$$1728 \times \frac{1}{10} \times \frac{1}{10} \times \frac{1}{10} = R^3$$

$$R = 1.2 \text{ cm}$$

Diameter = 2.4 cm

14. A train is running at a speed of 116 km/hr.

Find the distance covered by the train in metres in 18 seconds.

- a) 900 m
- b) 1160 m
- c) 508 m
- d) 580 m

Answer: D

$$\text{Distance} = 18 \times (116 \times 5)/18 = 580 \text{ m}$$

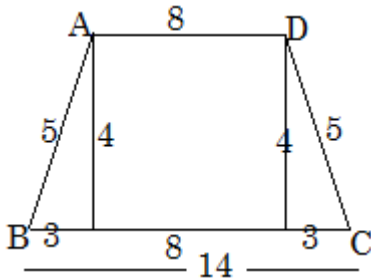
15. ABCD is an isosceles trapezium such that  $AD \parallel BC$ ,  $AB = 5 \text{ cm}$ ,  $AD = 8 \text{ cm}$  and  $BC = 14 \text{ cm}$ .

What is the area (in  $\text{cm}^2$ ) of trapezium?

- a) 36
- b) 44
- c) 88
- d) 144

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Answer: B



Area of trapezium =  $\frac{1}{2}$  Sum of parallel sides  $\times$  distance between =  $\frac{1}{2} \times 22 \times 4 = 44$

16. Find the mean of first five prime numbers.

- a) 5.6
- b) 4.8
- c) 4
- d) 4.2

Answer: A

Mean =  $(2+3+5+7+11)/5 = 5.6$

17. The average salary of all workers in a workshop is Rs. 12,000. The average salary of 7 technicians is Rs. 15,000. And the average salary of the rest is Rs. 9000. Find the total number of workers in the workshop.

- a) 12
- b) 13
- c) 14
- d) 15

Answer: C

Let total number of workers = x

Then A.T.Q

$$12,000 = \frac{[(15000 \times 7) + 9000 \times (x - 7)]}{x}$$

$$12000x = 105000 + 9000x - 63000$$

$$3000x = 42000$$

$$x = 14$$

$\Rightarrow$  Total workers = 14

18. The value of  $151^2 - 149^2$  is:

- a) 400
- b) 600
- c) 300
- d) 200

Answer: B

$$151^2 - 149^2$$

$$= (151 + 149)(151 - 149)$$

$$= 300 \times 2$$

$$= 600$$

19. Ravi scores 72% marks in examinations. If these are 360 marks, the maximum marks are:

- a) 500
- b) 400
- c) 350
- d) 450

Answer: A

Let maximum marks be x, then

$$x \times (72/100) = 360$$

$$= x = 360 \times (100/72)$$

$$= x = 500$$

So, the maximum marks is 500.

20. What is the difference in the median and mode of the list given below?

{6, 2, 3, 4, 3, 5, 2, 7, 4, 2, 6}

- a) 1
- b) 2
- c) 3
- d) 2.5

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Answer: B

Arranging in ascending order

2, 2, 2, 3, 3, 4, 4, 5, 6, 6, 7

Median = 4

Mode = 2

Difference = 2

21. The single discount equivalent to two successive discounts of 20% and 15% is:

- a) 28%
- b) 22%
- c) 30%
- d) 32%

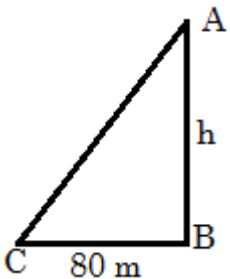
Answer: D

Single equivalent discount of 20% and 15% =  $20 + 15 - [(20 \times 15)/100] = 35 - 3 = 32\%$

22. 80 m away from the foot of the tower, the angle of elevation of the top of the tower is  $60^\circ$ . What is the height (in metres) of the tower?

- a) 40
- b)  $60\sqrt{3}$
- c)  $80\sqrt{3}$
- d)  $40/\sqrt{3}$

Answer: C



Let the height of tower AB be h.

Distance from foot of the tower BC = 80 m

In triangle ABC by Pythagoras theorem we have

$$\tan 60 = AB / BC$$

$$\sqrt{3} = h / 80$$

$$\therefore h = 80\sqrt{3}$$

23. A person buys 5 tables and 9 chairs for Rs. 15,400. He sells the tables at 10% profit and chairs at 20% profit. If his total profit on selling all the tables and chairs is Rs. 2,080 what is the cost price of 3 chairs?

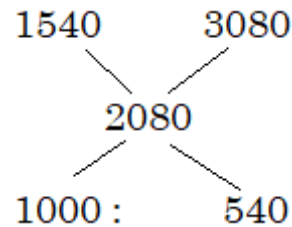
- a) Rs. 1,860
- b) Rs. 1,740
- c) Rs. 1,800
- d) Rs. 1,890

Answer: C

$$10\% \text{ of } 15400 = 1540$$

$$20\% \text{ of } 15400 = 3080$$

Using allegation method



Ratio of cost price of 5 tables and 9 chairs =  $1000x : 540x$

$$1000x + 540x = 1540x$$

$$1540x = 15400$$

$$x = 15400/1540$$

$$= x = 10$$

$$\text{Cost price of 9 chairs} = 540 \times 10 = 5400$$

$$\text{Cost price of 1 chair} = 5400/9 = 600$$

$$\therefore \text{Cost price of 3 chairs} = 3 \times 600 = 1800$$

24. In an acute angled triangle ABC if  $\sin (B + C - A) = \sqrt{3}/2$  and  $\tan (C + A - B) = 1$ , then C is equal to?

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a)  $37.5^\circ$

b)  $67.5^\circ$

c)  $52.5^\circ$

d)  $72.5^\circ$

Answer: C

$$\sin(B + C - A) = \sqrt{3}/2$$

$$\sin(B + C - A) = \sin 60^\circ$$

$$B + C - A = 60^\circ$$

And,

$$C + A - B = 45^\circ$$

$$\Rightarrow 2C = 105^\circ$$

$$\therefore C = 52.5^\circ$$

25. Starting with 8000 workers, the company increases the number of workers by 5%, 10% and 20% at the end of first, second and third year respectively. The number of workers in the fourth year was: -

a) 10188

b) 11088

c) 11008

d) 11808

Answer: B

The number of workers in the fourth year =

$$8000 \times 21/20 \times 11/10 \times 6/5$$

$$= 21 \times 11 \times 6 \times 8 = 48 \times 11 \times 21 = 528 \times 21 = 11088$$

26. If  $\sin x - \cos x = 1$ , where 'x' is an acute angle, the value of  $\sin x + \cos x$  is

a) 0

b) 1

c)  $1/2$

d) 2

Answer: B

$$\sin x - \cos x = 1$$

After square both side,

$$\sin^2 x + \cos^2 x - 2\sin x \cos x = 1$$

$$1 - 2\sin x \cos x = 1$$

$$\therefore \sin x \cos x = 0$$

$$\Rightarrow (\sin x + \cos x)^2 = \sin^2 x + \cos^2 x + 2\sin x \cos x = 1 + 0 = 1$$

$$\text{So, } \sin x + \cos x = \sqrt{1} = 1$$

27. Product of three consecutive odd numbers is 1287. What is the largest of the three numbers?

a) 9

b) 11

c) 13

d) 17

Answer: C

So,

On factorizing the given number i.e 1287

$$1287 = 3 \times 3 \times 11 \times 13$$

$$= 9 \times 11 \times 13$$

So, highest number is 13.

28. The variance of a set of number is 18.49.

Find the standard deviation.

a) 4.3

b) 5.9

c) 7.5

d) 9

Answer: A

$$SD = \sqrt{\text{Variance}}$$

$$= 4.3$$

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29. In a marriage party, 32% are women, 54% are men and there are 196 children. How many men are there in the party?

- a) 756
- b) 448
- c) 332
- d) 324

Answer: A

Total children =  $100 - 32 - 54 = 14\%$

$14\% = 196$

$\Rightarrow 100\% = 1400$

Men =  $54\%$  of total =  $(1400 \times 54)/100 = 756$

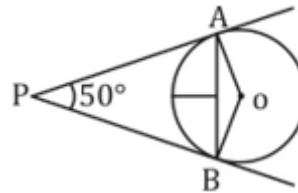
30. If PA and PB are tangents to the circle with centre O such that  $\angle APB = 50^\circ$ , then  $\angle OAB =$

- a)  $25^\circ$
- b)  $30^\circ$

c)  $40^\circ$

d)  $50^\circ$

Answer: A



$\angle AOB = 130^\circ$

In  $\triangle AOB$

$\therefore \angle OAB = \angle OBA = (180 - 130)/2 = 25^\circ$

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