Verbal IQ Tests

Classification

'Classification' means arrangement of given items on the basis of some common character. In this test, a group of certain items is given, out of which some are similar to in some manner and one is different from the rest. The candidate is required to choose this one item which does not fit into the given group.

1. (A) **Bat✓** (B) Snake
   (C) Swan (D) Crocodile
   (E) Frog

2. (A) Cap (B) Turban
   (C) Helmet **(D) Veil✓**
   (E) Hat

3. (A) Kiwi **(B) Snake✓**
   (C) Emu (D) Ostrich
   (E) Eagle

4. (A) Book (B) Pen
   (C) Paper **(D) Bus✓**
   (E) Scale

5. (A) Curd (B) Butter
   (C) Water✓ (D) Cheese
   (E) Cream

6. **(A) Potassium✓** (B) Silicon
   (C) Zirconium (D) Gallium
   (E) Germanium

7. (A) Tea (B) Cinchona
   (C) Rubber (D) Cardamom
   (E) Chalk✓

8. (A) Hangar (B) Platform
   (C) Dock **(D) Park✓**
   (E) Bus stand

9. (A) Sparrow **(B) Swan✓**
   (C) Parrot (D) Koel
   (E) Crow

10. (A) Tall (B) Huge
    (C) Thin **(D) Sharp✓**
    (E) Small

> ➤ **'Jackal' is related to 'Howl' in the same way as 'Cow' is related to:**
> A. Caws B. Hoot
> C. Coo D. Moo✓
> **Explanation:** As the sound of 'Jackal' is 'Howl' similarly the sound of 'Cow' is 'Moo'.

11. (A) Physics (B) Chemistry
    (C) Geography✓ (D) Botany
    (E) Zoology

12. (A) Football (B) Volleyball
    (C) Cricket **(D) Chess✓**
    (E) Hockey

13. (A) Trunk **(B) Forest✓**
    (C) Fruit (D) Leaf
    (E) Flower

14. (A) Giraffe **(B) Hyena✓**
    (C) Deer (D) Rhinoceros
    (E) Zebra

15. (A) Poland (B) Greece
    (C) Spain (D) Italy
    (E) Korea✓

16. (A) Tailor (B) Carpenter
    (C) Blacksmith **(D) Barber✓**
    (E) Engineer

17. **(A) Iron✓** (B) Potassium
    (C) Sodium (D) Chlorine
    (E) Iodine

18. (A) Fern (B) Moss
    (C) Algae (D) Fungi
    (E) Grass✓

19. (A) Tomato (B) Carrot
(C) Radish **(D) Brinjal✓**
(E) Cabbage

20. (A) Madagascar **(B) Thailand✓**
(C) Cuba (D) Greenland
(E) Tasmania

21. (A) Screw **(B) Hammer✓**
(C) Needle (D) Pin
(E) Nail

22. (A) Sesame (B) Corn
(C) Olive **(D) Onion✓**

23. (A) Moth (B) Bee
(C) Lizard✓ (D) Aphid
(E) Cockroach

24. (A) Tuberculosis **(B) Smallpox✓**
(C) Cholera (D) Typhoid
(E) Tetanus

25. (A) Paper (B) Wool
(C) Wood **(D) Plastic✓**
(E) Leather

26. (A) Eyes (B) Ears
(C) Hands (D) Legs
(E) Nose✓

27. (A) Volume (B) Size
(C) Large✓ (D) Shape
(E) Weight

28. (A) Antelope (B) Kangaroo
(C) Hippopotamus
(D) Unicorn✓
(E) Rhinoceros

29. (A) Cancel **(B) Change✓**
(C) Repeal (D) Revoke
(E) Rescind

30. (A) Curd (B) Butter
(C) Oil✓ (D) Cheese
(E) Cream

31. (A) Jovial **(B) Sad✓**
(C) Lively (D) Cheerful
(E) Festive

32. (A) Fog (B) Cloud
(C) Vapour **(D) Rain✓**
(E) Mist

33. **(A) Vessel✓** (B) Pail
(C) Bowl (D) Jug
(E) Tumbler

34. (A) Aunt (B) Mother
(C) Son✓ (D) Daughter
(E) Niece

35. (A) Curd (B) Cream
(C) Butter **(D) Oil✓**
(E) Cheese

36. (A) Topaz (B) Ruby
(C) Diamond (D) Garnet
(E) Pearl✓

37. (A) Duckling (B) Cub
(C) Piglet **(D) Lion✓**
(E) Calf

38. **(A) Whale✓** (B) Shark
(C) Cod (D) Starfish
(E) Dolphin

39. (A) Orange (B) Indigo
(C) Yellow (D) Green
(E) Pink✓

40. (A) Gamma (B) Delta
(C) Peso✓ (D) Beta
(E) Phi

1. All except Bat can live in water.
2. All except Veil cover the head, while veil covers the face.
3. All except Snake are flightless birds.
4. All except Bus are related to education. Bus is a transport.
5. All except Water are products obtained from milk.
6. All except Potassium are metals used in semiconductor devices.
7. All except Chalk are obtained from crops.
8. All except Park are halting places of various transport means.
9. Swan is the only water bird in the group.
10. All except Sharp are related to dimension.
11. All except Geography are branches of Science.
12. All except Chess are outdoor games.
13. All others are parts of a tree except Forest.
14. Hyena is the only flesh-eating animal in the group.
15. All except Korea are European countries, while Korea is an Asian country.
16. All except Barber require raw material to work.
17. All except Iron are very volatile.
18. All except Grass are non-flowering plants.
19. All except Brinjal can be eaten raw.
20. All except Thailand are islands.
21. All except Hammer have a pointed end.
22. All except Onion are used to extract oil.
23. All except Lizard are insects, while lizard is a reptile.
24. All except Smallpox are diseases caused by bacteria, while Smallpox is caused by virus.
25. All except Plastic are biodegradable materials.
26. All except Nose are parts which exist in pairs in human body.
27. All except Large are general physical properties of matter.
28. All except Unicorn are animals, while unicorn is an imaginary creature.
29. All except Change are synonyms.
30. Here, all except Oil are products obtained from milk.
31. All except (b) mean happiness.
32. All except (d) are particles of water suspended in the atmosphere.
33. All except (a) stand for the name of a particular vessel.
34. All except (c) are females.
35. All except (d) are made from milk.
36. Here, Pearl is only gem formed inside a shell.
37. Here, all except 'Lion' are young ones of animals.
38. All except Whale belong to the family of fish. Whale is a mammal.
39. All except Pink are the colours in a rainbow.
40. All except (C) are Greek letters. Here, Peso is a currency.

➤ **'Table' is related to 'Wood' in the same way as 'Shirt' is related to:**

A. Cotton **B.** Cloth✓
C. Dress **D.** Uniform

Explanation: As 'Table' is made from 'Wood' in the same way 'Shirt' is made from 'Cloth'.

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Analogy

'Analogy' is a verbal part of the Psychological and Reasoning Tests and forms an important ingredient of many Armed Forces Tests and Competitive examinations. Analogy is form of reasoning in which a similarity between two or more things is inferred from a known relationship between them. As there can be more than one relationship between two objects. The two pairs of words display a similarity of relationship and are said to be analogous pairs. Few examples are given below:

1. **Giant : Dwarf :: Genius : ?**
   (A) Wicked (B) Gentle
   (C) Idiot✓ (D) Tiny

   ☛ Dwarf is the antonym of Giant. Similarly, the antonym of Genius is idiot.

2. **Loud : Stentorian :: Bright : ?**
   (A) Resplendent✓ (B) Dull
   (C) Sunshine (D) Car

   ☛ The second is heightened form of the first.

3. **Mouse is related to Monitor as ____ is related to canvas.**
   (A) Cat **(B) Brush✓**
   (C) UPS (D) Painter

   ☛ Mouse puts the cursor where the computer operator wants to type. The brush is put where the painter wants work on a canvas.

4. **Fruit : Banana :: Mamma : ?**
   (A) Cow✓ (B) Snake
   (C) Fish (D) Sparrow

   ☛ First denotes the class to which the second belongs.

5. **Which of numbers belongs to the given set?**
   3, 29, 31
   (A) 49 **(B) 43✓**
   (C) 45 (D) 46

   ☛ Because, it is also a prime number like all those given in the set.

6. **42 : 56 :: 72 : ?**
   (A) 81 **(B) 90✓**
   (C) 92 (D) 100

   ☛ 42 = 6 × 7, 56 = 7 × 9 so missing fig. is 90 = 9 × 10.

Practice Test

1. **College : Student :: Hospital : ?**
   (A) Ward boy (B) Doctor
   (C) Medicine **(D) Patient✓**

2. **Tree : Forest :: Grass : ?**
   (A) Lawn✓ (B) Ground
   (C) Park (D) Pitch

3. **Video : Cassette : : Computer : ?**
   (A) Cover **(B) Floppy✓**
   (C) MB (D) Edit

4. **Cloth : Mill :: Newspaper : ?**
   (A) Editor (B) School
   (C) Book **(D) Press✓**

5. CUP : LIP :: BIRD : ?
(A) Mouth (B) Animal
(C) Forest **(D) Beak✓**

6. Flow : River :: Stagnant : ?
(A) Water (B) Cloud
(C) Pool✓ (D) Canal

7. Paw : Cat :: Hoof : ?
(A) Tiger (B) Cat
(C) Lion **(D) Horse✓**

8. Ornithologist : Bird :: Archaeologist : ?
(A) Islands (B) Mediators
(C) Archaeology✓
(D) Aquatic

9. K2 mountain belongs to:
(A) India (B) Japan
(C) Pakistan✓ (D) England

10. BEGK : ADFJ :: PSVY : ?
(A) SXOU **(B) ORUX✓**
(C) MTUX (D) LOQT

11. AZBY : CXDW :: EVFU : ?
(A) GTHS✓ (B) GSTV
(C) LMOV (D) TGSH

12. ZRYQ : KCJB :: PWOV : ?
(A) ACIG (B) IJST
(C) ELDK✓ (D) EOFP

13. CEDH : HDEC :: ? : PNRV
(A) VRNP✓ (B) NPNV
(C) NRVP (D) RPVM

14. 14 : 9 :: 26 : ?
(A) 17 (B) 14
(C) 30 **(D) 15✓**

15. 123 : 132 :: 235 : ?
(A) 132 (B) 152
(C) 253✓ (D) 170

16. M*N : 13*14 :: F*R : ?
(A) 13*17 (B) 15*5
(C) 6*18✓ (D) 27*17

17. 16 : 56 :: 32 : ?
(A) 87 **(B) 112✓**
(C) 113 (D) 118

18. 4 : 19 :: 7 : ?
(A) 52✓ (B) 58
(C) 19 (D) 17

19. 24 : 60 :: 120 : ?
(A) 120 (B) 110
(C) 300✓ (D) 108

20. K/T : 11/20 :: J/R : ?
(A) 10/18✓ (B) 17/12
(C) 3/18 (D) 9/10

21. 27 : 125 :: 64 : ?
(A) 112 **(B) 216✓**
(C) 500 (D) 279

22. Glove : Hand
(A) Neck : Shoe (B) Tie : Watch
(C) Socks : Feet✓
(D) Coat : Pocket

23. Lawyer : Court
(A) Chemist : Laboratory✓
(B) Businessman : Club
(C) Labour : Home
(D) Athlete : Olympics

24. Letter : Word
(A) Page : Book✓
(B) Product : Office
(C) Club : Children
(D) Homework : School

25. Lively : Dull
(A) Employed : Jobless✓
(B) Flower : Bud
(C) Factory : Labour
(D) Happy : Gay

26. Silence : Noise
(A) White : Peace
(B) Baldness : Hair✓
(C) Talk : Hear
(D) Sing : Dance

27. Candle : Wick
(A) Pin : Nail (B) Light : Bulb
(C) Oven : Heater
(D) Bicycle : Wheel✓

28. Sound : Muffled
(A) Moisture : Humid
(B) Colour : Faded✓
(C) Despair : Anger
(D) Odour : Pungent

29. **Platform : Train**
(A) Aeroplane : Aerodrome
(B) Hotel : Teacher
(C) Quay : Ship✓
(D) Footpath : Car

30. **Train : Track**
(A) Water : Rain
(B) Bullet : Barrel✓
(C) Idea : Foot
(D) Fame : Television

31. **Chalk : Blackboard**
(A) Type : Ink
(B) Table : Window
(C) Door : Handle
(D) Ink : Paper✓

32. **Apple, Grape, Orange**
(A) Vegetable **(B) Fruits**✓
(C) Roots (D) Oats

33. **Lahore, Karachi, Peshawar**
(A) Quetta✓ (B) Punjab
(C) KP (D) Sindh

34. **Lock, Shut, Fasten**
(A) Table (B) Door
(C) Wood **(D) Block**✓

35. **Wheat, Barley, Rice**
(A) Food (B) Agriculture
(C) Farm **(D) Gram**✓

36. **Pathology, Cardiology, Radiology, Ophthalmology**
(A) Math **(B) Hematology**✓
(C) Zoology (D) Urdu

37. **Urdu, Sindhi, Punjabi**
(A) England (B) Thailand
(C) Pakistan✓ (D) America

38. **Clutch, Brake, Horn**
(A) Bus (B) Motorcycle
(C) Accident **(D) Steering**✓

39. **Binding : Book**
(A) Criminal : Gang
(B) Display : Museum
(C) Artist : Carpenter
(D) Frame : Picture✓

40. **Explore : Discover**
(A) Read : Skim
(B) Research : Learn✓
(C) Write : Print
(D) Think : Relate

➤ **'Jade' is related to 'Green' in the same way as 'Garnet' is related to:**
A. Red✓ **B.** Blue
C. Orange **D.** Yellow
Explanation: 'Jade' is a 'green' precious stone in the same way 'Garnet' is a 'red' precious stone.

Hints & Explanations

1. (d): As Students read in College similarly Patients are treated in Hospital.
2. (a): As Tree is found in Forest similarly Grass is found in Lawn.
3. (b): As Cassette is used in Video similarly Floppy is used in Computer.
4. (d): As Cloth is made in a Mill similarly Newspaper is printed in Press.
5. (d): Cup is used to drink something with the help of Lips similarly Birds collect grass with the h of Beak to make her nest.
6. (c): As Water of a River flows similarly water of Pool is Stagnant.
7. (d): As Cat has Paw similarly Horse has Hoof.
8. (c): As Ornithologist is a specialist of Birds similarly Archaeologist is a specialist of Archaeology.
9. (c): K2 mountain belongs to Pakistan.
10. (b):

As	Similarly
$B \xrightarrow{+1} A$	$P \xrightarrow{+1} O$
$E \xrightarrow{+1} D$	$S \xrightarrow{+1} R$
$G \xrightarrow{+1} F$	$V \xrightarrow{+1} U$
$K \xrightarrow{+1} J$	$Y \xrightarrow{+1} X$

(a):

As	Similarly
$A \xrightarrow{+2} C$	$E \xrightarrow{+2} G$
$Z \xrightarrow{+2} X$	$V \xrightarrow{+2} T$
$B \xrightarrow{+2} D$	$F \xrightarrow{+2} H$
$Y \xrightarrow{+2} W$	$U \xrightarrow{+2} S$

12. (c):

As

$Z \xrightarrow{-8} R \xrightarrow{+7} Y \xrightarrow{-8} Q$

$K \xrightarrow{-8} C \xrightarrow{+7} J \xrightarrow{-8} B$

Similarly

$P \xrightarrow{+7} W \xrightarrow{-8} O \xrightarrow{+7} V$

$\xrightarrow{+7} L \xrightarrow{-8} D \xrightarrow{+7} K$

➤ **NATION : ANTINO :: HUNGRY:?**

A. HNUGRY
B. UHNGYR✓
C. YRNGUH
D. UNHGYR

Explanation:

As	Similarly
N ⇄ A	H ⇄ U
A ⇄ N	U ⇄ H
T → T	N → N
I → I	G → G
O ⇄ N	R ⇄ Y
N ⇄ O	Y ⇄ R

13. (a): CEDH – Reverse it → PNRV.
Therefore VRNP is the answer.

14. (d): $14 = (2 \times 9 - 4)$
$26 = (2 \times 15 - 4)$
$? = 15$

15. (c): As, 123 = 132
As, 235 = 253
The middle digit of first term becomes power to the next term.

16. (c): As position of M and N in Eq. alphabet is 13 and 14, respectively.

17. (b): As, 16:56 = (2/7)
Similarly, 32:112: (2/7)

18. (a): As, $(4)^2 + 3 = 19$
Similarly, $(7)^2 + 3 = 52$

19. (c): As 24:60 = (2/5)
Similarly, (120/300) = (2/5)

20. (a): In Eq. alphabet, positions of K and T are 11 and 20, respectively. Similarly, position of J and R is 10 and 18.

21. (a): $27 = 3^3$; $125 = 5^3$; $64 = 4^3$
Therefore $? = 6^3 = 216$

22. (c): As Glove is worn in Hands similarly Socks are worn on Feet.

23. (a): As the working field of Lawyer is Court, similarly the working field of Chemist is Laboratory.

24. (a): As Word is a group of Letters similarly Book is a group of Papers.

25. (a): First word is opposite to the second word.

26. (b): As Silence is opposite to Noise, similarly Baldness is opposite to Hair.

27. (d): As Wick is a part of Candle similarly Wheel is a part of Bicycle.

28. (b): Second is the process of gradual disappearances of the first.

29. (c): Second is the place where first stops.

30. (b): As Train is guided by the Track similarly Bullet is guided by the Barrel.

31. (d): As Chalk is used to write on the Blackboard similarly the Ink is used to write on the Paper.

32. (b): Apple, Grape and Orange all are fruits.

33. (a): All the cities given in the question are Province capitals similarly Quetta is also a capital city.

34. (d): The synonym of Lock, Shut and Fasten is Block.

35. (d): All the terms given in the question are cereals and gram is also one of the cereals.

36. (b): As all terms given in the question are medical terms and Hematology is also medical term.

37. (c): All these words represent the Languages of Pakistan.

38. (d): All these are part of a vehicle.

39. (d): A Binding surrounds a Book; a Frame surrounds a Picture.

40. (b): One Explores to Discover; one Researches to Learn.

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➤ REASON : SFBTPO :: THINK: ?
A. SGHMJ
B. UIJOL✓
C. UHNKI
D. UJKPM

EXPLANATION:

As
R $\xrightarrow{+1}$ S
E $\xrightarrow{+1}$ F
A $\xrightarrow{+1}$ B
S $\xrightarrow{+1}$ T
O $\xrightarrow{+1}$ P
N $\xrightarrow{+1}$ O

Similarly
T $\xrightarrow{+1}$ U
H $\xrightarrow{+1}$ I
I $\xrightarrow{+1}$ J
N $\xrightarrow{+1}$ O
K $\xrightarrow{+1}$ L

Series Completion Test

SERIES COMPLETION TEST:

The series maybe of numbers or alphabet.

A. NUMBER SERIES:

In this question, a number series is given and candidates are ask to either insert a missing number or find the one that does not follow the pattern of the series. The only thing to be understood for solving this question is the pattern, on which a number series is written. A number series can be formatted by using various methods.

B. ALPHABETICAL SERIES:

In the question involving alphabetical series, a set of letters is written four or five times with blank places in between. The series follow a specific pattern and students are required to find out the letters which should in place of the missing spaces.

It will clarify from the following examples:

example 1:

Which number will complete the series?

8, 13, 10, 15, 12, 17, 14...

Solution

Second term is greater than first term by 5, while the third term is less than the second term by 3. The same order is repeated. So, 19 is the answer.

example 2:

Which one of the number is wrong among the series giving below?

3, 2, 8, 9, 13, 22, 18, 32, 23, 42.

Solution

There are two series:

3, 8, 13, 18, 23 and 2, 22, 32, 42. Hence 9 is wrong.

example 3:

Which number will come next in the following series?

1, 8, 9, 64, 25, 216, ?, ?

Solution

The odd terms are squares of the no., 1, 3, 5 ..... While the even terms are cube of the no. 2, 4, 6, ...

example 4:

Which number will come next in the following 4, 16, 36, ? , 100, 144

Solution

The numbers in the series are square of 2, 4, 6, ..., 10, 12

Therefore, the missing number is square of 8 *i.e.*, x64.

Example 5:

What will be the next term in: BDF, CFI, DHL,?

Solution

Clearly, the first, second and third letters of each term are respectively moved one, two and three steps forward to obtain the corresponding letters of the next term. So, the next term is EJO.

Example 6:

1CV, 5FU, 9IT, 15LS, 17OR, which term is not fit in the series?

Solution

The numerical parts move with a difference of +4.

Thus, the correct sequence of the numerical components would be 1, 5, 9, 13, 17. Therefore, 15LS does not fit in the series.

Practice Test

1. **120, 99, 80, 63, 48, ?**
   (A) 35✓ (B) 49
   (C) 112 (D) 117

2. **589654237, 89654237, 8965423, 965423, ?**
   (A) 52987 (B) 16528
   (C) 79625 **(D) 96542✓**

3. **3, 10, 101, ?**
   (A) 10001 (B) 10200
   (C) 10202✓ (D) 11102

4. **In the series 2, 6, 18, 54, _____ what will be the 8th term?**
   (A) 4730 **(B) 4374✓**
   (C) 3473 (D) 7434

5. **125, 80, 45, 20, ?**
   (A) 5✓ (B) 11
   (C) 13 (D) 17

6. **48, 24, 96, 48, 192, ?**
   (A) 76 (B) 90
   (C) 96✓ (D) 98

7. **2, 15, 41, 80, ?**
   (A) 111 (B) 120
   (C) 121 **(D) 132✓**

8. **6, 11, 21, 36, 56, ?**
   (A) 42 (B) 51
   (C) 81✓ (D) 91

9. **563, 647, 479, 815, ?**
   (A) 672 (B) 386
   (C) 279 **(D) 143✓**

10. **13, 35, 57, 79, 911, ?**
    (A) 1110 (B) 1112
    (C) 1113✓ (D) 1315

11. **6, 12, 21, ?, 48**
    (A) 33✓ (B) 35
    (C) 39 (D) None

12. **Which term of the series 5, 10, 20, 40, _____ is 1280?**
    (A) 1st **(B) 9th✓**
    (C) 2nd (D) None of these

13. **2, 5, 9, ?, 20, 27**
    (A) 14✓ (B) 22
    (C) 25 (D) 29

14. **2, 3, 5, 10, 13, ?, 43, 172, 177**
    (A) 18 (B) 30
    (C) 39✓ (D) 25

15. **9, 27, 31, 155, 161, 1127, ?**
    (A) 613 **(B) 1135✓**
    (C) 8812 (D) 1123

16. **In the series 10, 17, 24, 31, 38, ____ which of the following will be a number of the series?**
    (A) 84 **(B) 364✓**
    (C) 754 (D) 1000

17. **240, ?, 120, 40, 10, 2**
    (A) 120 **(B) 240✓**
    (C) 240 (D) 130

18. 2, 3, 8, 27, 112, ?
(A) 116 (B) 130
(C) 512 **(D) 565✓**

19. 6, 17, 39, 72, ?
(A) 38 (B) 90
(C) 116✓ (D) 17

20. 1, 5, 13, 25, 41, ?
(A) 15 (B) 27
(C) 61✓ (D) 60

21. 5, 6, 9, 15, ?, 40
(A) 22 **(B) 25✓**
(C) 24 (D) 11

22. 1, 1, 2, 6, 24, ?, 720
(A) 120 (B) 109
(C) 140 **(D) 120✓**

23. 1, 5, 14, 30, 55, 91, ?
(A) 134 **(B) 140✓**
(C) 100 (D) 120

24. 1, 3, 4, 8, 15, 27, ?
(A) 77 (B) 56
(C) 50✓ (D) 55

25. 150, 120, 105, ?
(A) 90 (B) 80
(C) 97.5✓ (D) 88.8

Find out the wrong term:

26. 15, 16, 22, 29, 45, 70,
(A) 12 **(B) 22✓**
(C) 30 (D) 60

27. 8, 14, 26, 48, 98, 194, 386
(A) 180 **(B) 48✓**
(C) 110 (D) 250

Find out the missing term:

28. B, D, F, I, L, P, ?
(A) A (B) L
(C) T✓ (D) W

29. Z, U, Q, ?, L
(A) G (B) B
(C) Z **(D) N✓**

30. AI, BJ, CK, ?
(A) DL✓ (B) LH
(C) MN (D) HT

31. BMX, DNW, FOU, ?
(A) ABZ (B) YWT
(C) RGC **(D) HPT✓**

32. 2Z5, 7Y7, 14X9, 23W11, 34V13, ?
(A) 12W25 (B) 55X17
(C) 47U15✓ (D) 47V14

33. Q1F, S2E, U6D, W21C, ?
(A) S45W (B) A11Z
(C) Y88B✓ (D) Z88B

34. _ _ aba _ _ ba _ ab
(A) Aabba **(B) abbab✓**
(C) bbbaa (D) bbaba

35. ab _ _ baa _ _ ab _
(A) aaaba
(B) aabaa✓ (C) aabbb
(D) baabb

36. _ stt _ tt _ tts _
(A) tsts (B) ttst
(C) sstt **(D) tsst✓**

37. gfe _ ig _ eii _ fei _ gf _ ii
(A) eifgi (B) figie
(C) ifgie✓ (D) ifige

38. _ a _ b _ abaa _ bab _ abb
(A) aaabb (B) ababb
(C) babab **(D) babba✓**

39. abca _ bcaab _ ca _ bbc _ a
(A) ccaa (B) bbaa
(C) abac✓ (D) abba

40. _ tu _ rt _ s _ _ usrtu _
(A) rtusru (B) rsutrr
(C) rsurtr **(D) rsurts✓**

Hints & Explanations

1. The pattern is -21, –19, –17, –15, ...
   So, missing term = 48 – 13 = 35.
2. The digits are removed one by one from the beginning and the end in order alternately.
3. Each term in the series is obtained by adding 1 to the square of the preceding term.
   So, missing term = (101)2 + 1 = 10202.
4. Clearly, $2 \times 3 = 6$, $6 \times 3 = 18$, $18 \times 3 = 54$, So, the series is a G.P. in which a = 2, r = 3. Therefore, 8^{th} term = $ar^{8-1} = ar^7 = 2 \times 3^7 = (2 \times 2187) = 4374$.
5. The pattern is –45, –35, –25, ...
   So, missing term = 20 – 15 = 5.
6. The pattern is ÷2, ×4, ÷2, ×4, ...
   So, missing term = 192 ÷ 2 = 96.
7. The pattern is +13, + 26, + 39, ...
   So, missing term = 80 + 52 = 132.
8. The pattern is +5, +10, +15, +20, ...
   So, missing term = 56 + 25 = 81.
9. The pattern is +84, -168, +336, ... *i.e.*, + 84, –(84 × 2), +(84 × 22), ...
   So, missing term = 815 – (84 × 23) = 815 – 672 = 143.
10. The terms of the given series are numbers formed by joining together consecutive odd numbers in order *i.e.*, 1 and 3, 3 and 5, 5 and 7, 7 and 9, 9 and 11, ...
    So, missing term = number formed by joining 11 and 13 = 1113.
11. The pattern is +6, +9, +12, +15, ...
    So, missing term = 21 + 12 = 33.
12. Clearly, $5 \times 2 = 10$, $10 \times 2 = 20$, $20 \times 2 = 40$, ... So, the series is a G.P. in which a=5 and r = 2. Let 1280 be the nth term of the series.
    Then, $5 \times 2^{n-1} = 1280$, $2^{n-1} = 256$, $2^8 = 2^{n-1}$, $8 = n - 1$, $n = 9$.
13. The pattern is +3, +4, +5, +6, ...
    So, missing term = 9 + 5 = 14.
14. The pattern is +1, × 1, +2, × 2, + 3 × 3, +4, × 4, +5.
    So, missing term = 13 × 3 = 39.
15. The pattern is ×3, +4, ×5, +6, ×7, ...
    So, missing term = 1127 + 8 = 1135.
16. The given series consists of numbers each of which, on dividing by 7, leaves a remainder 3. No other number except 346 satisfies the property.
17. The pattern is ÷1, ÷2, ÷3, ÷4, ÷5.
    So, missing term = 240 ÷ 1 = 240.
18. The pattern is ×1 + 1, ×2 + 2, ×3 + 3, ×4 + 4, ...
    So, missing term = 112 × 5 + 5 = 565.

19. The pattern is +11, +22, +33, ...
So, missing term = 72 + 44 = 116.
20. The pattern is +4, +8, +12, +16 ...
So, missing term = 41 + 20 = 61.
21. The pattern is +1, +3, +6 ....
So, missing term is 15 + 10 = 25.
22. The pattern is ×1, ×2, ×3, ×4 ...
So, missing term is 24×5 = 120.
23. The pattern is +4, +9, +16, +25, +36, +49
So, missing term is 91 + 49 = 140
24. Has no explanation.
25. Has no explanation.
26. The correct pattern is +1, +4, +9, +16, +25....
So, 22 is wrong and must be replaced by 20.
27. The correct pattern is ×2 – 2.
So, 48 is the wrong and must be replaced by (26 × 2 – 2) = 50.
28. B + 2 = D, D + 2 = F, F + 3 = I, I + 3 = L, L + 4 = P, P + 4 = T.
29. Z – 5 = U, U – 4 = Q, Q – 3= N, N – 2 = L.
30. 1st letter: A+1 = B, B+1 = C, C+1 = D.
2nd letter: I+1 = J, J+1 = K, K+1 = L.
31. 1st letter: B+2 = D, D+2 = F, F+2 = H.
2nd letter: M+1 = N, N+1 = O, O+1 = P.
3rd letter: X–1 = W, W–2 = U, U–3 = T.
32. 1st letter: 2+5 = 7, 7+7 = 14, 14+9 = 23, 23+11 = 34, 34+13 = 47.
2nd letter: Z–1 = Y, Y–1 = X, X–1 = W, W–1 = V, V–1 = U.
3rd letter: 5+2 = 7, 7 +2 = 9, 9+2 = 11, 11+2 = 13, 13+2 = 15.
33. 1st letter: Q+2 = S, S+2 = U, U+2 = W, W+2 = Y.
2nd letter: 1×1+1 = 2, 2×2+2 = 6, 6×3+3 = 21, 21×4+4 = 88.
3rd letter: –1 = E, E–1 = D, D–1=C, C–1=B
34. The series is ab/ab/ab/ab. Thus, the pattern 'ab' is repeated.
35. The series is aba/aba/aba/aba. Thus, the pattern 'aba' is repeated.
36. The series is tst/tst/tst/tst. Thus, the pattern 'tst' is repeated.
37. The series is gfeii/gfeii/gfeii/gfeii. Thus, the pattern 'gfeii' is repeated.
38. The series is baa/bba/baa/bba/baa/bba. Thus, the pattern baa/bba is repeated.
39. The series is abc/aabc/aabbc/aabbcc/ a.
40. The series rtus/rtus/rtus/rtus. Thus, the pattern 'rtus' is repeated.

1. What number should come next in the series, 1, 2, 3, 5, 8, ?

○ 12 ○ 14
○ 15 ◉ 13 ✓

Correct Ans: 13

Explanation:

In this series, each term is the sum of preceding two terms as,
1+2 = 3
3+2 = 5
5+3 = 8
Next term in the series will be,
8+5 = 13

Coding-Decoding

In this chapter, we deal with the question which is coded in a definite pattern. Coding is a system of letters, digits or signs used for identification purposes. Codes are used for transmitting messages to the receiver without any third person knowing it.

Types of Coding:

1. Letter Coding
2. Number Coding
3. Substitution Coding
4. Mixed Letter Coding

1. LETTER CODING:

In the following question, the letters are coded as some other letters. Trace the code and find the code for given groups of letters.

Example 1:

In a certain code, **TEACHER** is written as **VGCEJGT**. How is **CHILDREN** written in that code?

(A) EJKNEGTP (B) EGKNFITP
(C) EJKNFGTO (D) EJKNFTGP

Solution (d)

TEACHER :: VGCEJGT
(Each letter is increasing by 2)
CHILDREN :: EJKNFTGP

2. NUMBER CODING:

Example 2:

If Z = 52 and ACT is equal to 48, then BAT will equal to?

Solution

$Z = 52 = 26 \times 2$
$ACT = 48 = 1 \times 2 + 3 \times 2 + 20 \times 2$
$BAT = 2 \times 2 + 1 \times 2 + 20 \times 2 = 46$

3. SUBSTITUTION CODING:

Example 3:

If in a language, finger is called toe, toe is called foot, foot is called thumb, thumb is called ankle, ankle is called palm and palm is called knee, then in that language, what will an illiterate man put to mark his signatures?

Solution

An illiterate man puts his thumb to mark his signatures. But as given, thumb is called ankle. So an illiterate man will put his ankle to mark his signatures.

4. MIXED LETTER CODING:

Example 4:

If **341782** means **MONKEY** and **0596** means **RAGS**, then **75195044** means?

Solution

341782	0596	**letters**
MONKEY	RAGS	**code**

So, 75195044 = KANGAROO.

Practice Test

1. If E = 5 and HOTEL = 12, how will you code LAMB?
(A) 7✓ (B) 11
(C) 12 (D) 25

2. If O = 16, FOR = 42, then what is FRONT equal to?
(A) 12 (B) 27
(C) 37 **(D) 78✓**

3. If 'sky' is 'star', 'star' is 'cloud', 'cloud' is 'earth', 'earth' is 'tree' and 'tree' is 'book', then where do the birds fly?
(A) Book (B) Earth
(C) Star✓
(D) Data inadequate

4. If 'man' is called 'girl', 'girl' is called 'woman', 'woman' is called 'boy', 'boy' is called 'butler' and 'butler' is called 'rogue', who will serve in a restaurant?
(A) Boy (B) Father
(C) Rogue✓ (D) Woman

5. If 'water' is called 'food', 'food' is called 'tree', 'tree' is called 'sky', 'sky' is called 'wall', on which of the following grows a fruit?
(A) Water (B) Food
(C) Sky✓ (D) Tree

6. In a certain code language, 'mink yang pe' means 'fru'ts are ripe', 'pe lao may mink' means 'oranges are not ripe' and 'may pe nue mink' means 'mangoes are not ripe'. Which word in that language means 'mangoes'?
(A) May (B) Pe
(C) Nue✓ (D) Mink

7. If in a certain language, FAMOUS is coded as JWPLWQ, then how will MIRACLE be coded?
(A) ELCARIM (B) CLEMIRA
(C) QUEXJEF✓ (D) NJSBDMF

If in a certain language, FOOTBALL is coded as BSLWZCKM, then how will TENNIS be coded?
(A) QMLPHT✓ (B) SINNET
(C) SFOOJT (D) UFOOJT

9. If in a certain language, GAMBLER is coded as HCNDMGS, then how will MARTIAL be coded?
(A) LAITRAM (B) NBSUJBM
(C) NCSVJCM✓ (D) NCSVJAM

10. If in a certain language, PICNIC is coded as 123423 & PRIDE is coded as 15256, how is PRICE coded in that language?
(A) 243751 (B) 157342
(C) 157324 **(D) 152437✓**

11. If in a certain language, ABOUAT is coded as 86753 & AWARE is coded as 84821, how is ERRATA coded in that language?
(A) 228381 (B) 129871
(C) 831228✓ (D) 138228

12. If in a certain language, GOLDSMITH is coded as 967853421 & SMOOTH is coded as 536621, how is MOLDIT coded in that language?
(A) 842763 (B) 678423
(C) 198871✓ (D) 842736

13. If in a certain language, SURVIVE is coded as 9182723 & MONSOON is coded as 6549554, how is RUMOUR coded in that language?
(A) 518618 (B) 581618
(C) 865118 **(D) 816518✓**

14. If salt is called pulse, pulse is called sugar, sugar is called wheat, wheat is called rice and rice is called vegetable, what should a person with diabetes avoid?
(A) Sugar **(B) Wheat✓**
(C) Rice (D) Salt

15. If lab is called office, office is called class, class is called library, library is called auditorium, auditorium is called playground and playground is called building, where will one find books?
(A) Auditorium✓ (B) Class
(C) Library (D) Lab

16. If rose is called mango, mango is called onion, onion is called potato, potato is called chilli, chilli is called sugar, what should be used to make a shake?
(A) Mango (B) Potato
(C) Onion **(D) Chilli✓**

17. If a man is called dog, dog is called child, child is called woman, woman is called priest, priest is called devotee, who is a pet animal?
(A) Child✓ (B) Dog
(C) Priest (D) Man

18. If orange is called yellow, yellow is called pink, pink is called white, white is called black, black is called blue, blue is called green and green is called red, what is the colour of sky?
(A) Blue (B) Yellow
(C) Green✓ (D) Orange

19. In a certain coded language, 'pac vac nac' means 'water is cold'; 'to nac ra' means 'tea is hot'; 'ra pac doo' means 'water and tea' and 'vac dho la' means 'Beer is cold'. Which word in that language means 'tea'?
(A) nac **(B) ra✓**
(C) to (D) pac

20. In a coded language, 'pik na sud' means 'you may go'; 'na joc ta' means 'come and go' and 'joc pe rod' means 'boy and girl'. Which of the following means 'boy' in that coded language?
(A) pik (B) pe
(C) rod **(D) pr or rod✓**

21. In a certain language, 'tun min sam' means 'sugar is bad'; 'sam kot cim' means 'salt is best' and 'yah ton min top' means 'do away best bad'. Which of the following means sugar in that language?
(A) min (B) sam
(C) tum✓ (D) yah

22. In a certain language, 'pre nat bis' means 'smoking is harmful'; 'vog do nat' means 'avoid harmful habit' and 'dor bis yel' means 'please avoid smoking.' Which of the following means 'habit' in that language?
(A) vog✓ (B) nat
(C) dor (D) bis

23. In a certain code language, '146' means 'hot black tea', '356' means 'very black man' and '389' means 'man and woman.' Which digit stands for 'very'?
(A) 9 **(B) 5✓**
(C) 8 (D) 2

24. In a certain code language, '123' means 'speed and accident', '345' means 'speed is cause' and '146' means 'accident is effect'. Which of the following numeral symbols stands for 'cause'?
(A) 3 (B) 4
(C) 5✓ (D) 6

25. In a certain code language, '389' means 'run very fast', '964' means 'come back fast' and '487' means 'run and come.' Which digit in that language means 'come'?
(A) 7 (B) 9
(C) 4✓ (D) 8

26. In a certain code language, '543' means 'he is boy', '659' means 'he reads book' and '864' means 'this is book'. Which of the following means 'book' in that language?
(A) 6✓ (B) 8
(C) 4
(D) Data inadequate

Hints & Explanations

1. (a) Clearly, the code of a word is obtained by dividing the sum of the individuals of its letters by th number of letters in the word.
   Thus, H+O+T+E+L/5
   = 8+15+20+5+12/5 = 60/5 = 12
   So, LAMB = L+A+M+B /4
   = 12+1+13+2/4 = 28/4 = 7
2. (d) We have: A=2, B=3, C=4...Z=27
   FOR = F+O+R = 7+16+19=42
   FRONT = F + R + O + N + T
   = 7+19+16+15+21 = 78
3. (c) Birds fly in the 'sky' and as given 'sky' is 'star.' So birds fly in 'star.'
4. (c) A 'butler' serves in a restaurant but 'butler' is called 'rogue.' So a 'rogue' will serve in th restaurant.
5. (c) A fruit grows on a 'tree' and 'tree' is called 'sky.' So a fruit grows on the 'sky.'
6. (c) In the second and the third statements, the common code-words are 'pe', 'mink' and 'may' an the common words are 'are', 'not' and 'ripe'.
   So, in the third statement, 'nue' means 'mangoes.'
7. (c) The letters get replaced in a set pattern as shown below:

M	I	R	A	C	L	E
↓	↓	↓	↓	↓	↓	↓
+4	−4	+3	−3	+2	-2	+1
↓	↓	↓	↓	↓	↓	↓
Q	E	U	X	E	J	F

8. (a) The letters get replaced in a set pattern as shown below:

T	E	N	N	I	S
↓	↓	↓	↓	↓	↓
−3	+3	−2	+2	−1	+1
↓	↓	↓	↓	↓	↓
Q	H	L	P	H	T

9. (c) The letters get replaced in a set pattern as shown below:

M	A	R	T	I	A	L
↓	↓	↓	↓	↓	↓	↓
+1	+2	+1	+2	+1	+2	+1
↓	↓	↓	↓	↓	↓	↓
N	C	S	V	J	C	M

10. (d) Clearly, the alphabet are coded as:

P	I	C	N	I	C		P	R	I	D	E
1	2	3	4	2	3		1	5	2	6	7

    So, Prince is coded as 152437
11. (c) Clearly the alphabet are coded as follows:

A	B	O	U	T		A	W	A	R	E
8	6	7	5	3		8	4	8	2	1

    So, ERRATA is coded as 122838

12. (c) Clearly the alphabet are coded as follows.
G O L D S M I T H S M O O T H
9 6 7 8 5 3 4 2 1 5 3 6 6 2 1
So, MOLDIT is coded as 367842

13. (d) Clearly the alphabet are coded as follows
S U R V I V E M O N S O O N
9 1 8 2 7 2 3 6 5 4 9 5 5 4
So, RUMOUR is coded as 816518

14. (b) A person with diabete should avoid 'sugar.' But 'sugar' here is known as 'wheat.' So person with diabetes should avoid 'wheat.'

15. (a) Books are placed in the 'library.' So the books are available in 'auditorium.'

16. (d) Shake is made with 'mango.' But ultimately 'chilli' should be used to make a shake, because 'chilli' is called here 'sugar.'

17. (a) 'Dog' is a pet animal. 'Dog' here is known as 'child.' So the 'child' is a pet animal

18. (c) The colour of sky is 'blue.' But 'blue' here is known as 'green.' So the colour of sky is 'green.'

19. (b) In the second and third statements, the common word is 'tea' and the common code is 'ra.'. So 'ra' means 'tea.'

20. (d) In the first and second statements, the common word is 'go' and the common code is 'ja.' So 'ja' means 'go.'
In the second and third statement the common word is 'and' and common code is 'joc.' So 'joc' means 'and.' Thus, in third statement, the word 'boy' means 'pe' or 'rod.'

21. (c) In the first and second statements, the common word is 'is' and the common code is 'sam.' So 'sam' means 'is'. In the first and third statements, the common word is 'bad' and the common code is 'min.' So 'min' means 'bad.' Thus, in the first statement, 'tun' means 'sugar.'

22. (a) In the first and second statements, the common word is 'harmful' and the common code is 'nar'. So 'nat' means 'harmful.'
In the second and third statements, the common word is 'avoid' and the common code is 'dor.'
So 'dor' means 'avoid'. Thus, in the second statement, 'vog' means 'habit.'

23. (b) In the first and second statements, the common word is 'black' and the common code is '6.' So '6' means 'black.'
In the second and third statements, the common word is 'man' and the common code is '3.' So '3' means 'man'. Thus, in second statements' means 'very.'

24. (C) In the first and second statements, the common word is 'speed' and the common code is '3.' So '3' means 'speed.' Thus, in second statement, 's' means 'very.'
In the first and third statements, the common word is 'accident' and the common code is '1.' So '1' means 'accident.'
In the second and third statements, the common word is 'is' and the common code is '4.' So '4' means 'is.'
Thus, in second statement '5' means 'cause.'

25. (c) In the first and second statements, word is 'fast' and the common code is '9.' So '9' means 'fast.'
In the second and third statements, the common word is 'come' and the common code is '4.' So '4' mean 'come.'

26. (a) In the first and second statements, the common word is 'green' and the common code is '4.' So '4' means 'he.' In the second and third statements, the common word is 'book' and the common code is '6.' So '6' means 'book.'

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Number, Ranking & Time

This chapter deals with the question related with comparison of ranks. The term ranks include various objects such as age, height, marks, etc.

Position of Person from upward / right:
= [Total no. of persons – position of person from down/left] + 1

Position of Person from downward / left:
= [Total no. of persons – position of person from up / right] + 1

Example 1:

Mani is fourteenth from the right end in a row of 40 boys. What is his position from the left end?

Solution

Clearly, number of boys towards the left of Mani = (40 – 14) = 26 + 1 = 27

So, Mani is 27^{th} from the left end.

Example 2:

In a row of boys facing the north, A is 16^{th} from the left end and C is 16^{th} from the right end. B, who is 4^{th} to the right of A, is 5^{th} to the left of C, in a row. How many boys are there in a row?

(a) 39 (b) 40
(c) 41 (d) 42

Solution

According to given conditions, there are 15 boys to the left of A, as well as to the right of C. Also, B lies between A and C such that there are three boys between A and B, and 4 boys between B and C. So, number of boys in a row:

= (15 + 1 + 3 + 1 + 4 + 1 + 15) = 40

Practice Test

1. **Amer's position is 14^{th} from upwards in a class of 43 students. What will be his position from downwards?**
(A) 30^{th}✓ (B) 17^{th}
(C) 25^{th} (D) 8^{th}

2. **Riaz is 9^{th} from downwards in a class of 31 students. What will be his position from upwards?**
(A) 9^{th} (B) 11^{th}
(C) 23^{rd}✓ (D) 13^{th}

3. **Riaz and Shabbir are ranked 13^{th} and 14^{th}, respectively in a class of 23. What is their rank from the last respectively?**
(A) 9^{th} ; 17^{th} (B) 12^{th} ; 2^{nd}
(C) 11^{th} ; 10^{th}✓ (D) None of these

4. **Riaz is 7 ranks ahead of Ali in a class of 39. If Ali's rank is seventeenth from the last, what is Shabbir's rank from the start?**
(A) 10^{th} (B) 11^{th}
(C) 16^{th}✓ (D) 9^{th}

5. **Aftab ranked 11th from the top and thirty, one from the bottom in a class. How many students are there in the class?**
(A) 12 (B) 49
(C) 41✓ (D) 40

6. **Noor is eighth from the bottom and fourteenth from the top. There are fifteen boys between the first student and the last student. How many girls are there?**
(A) 15 (B) 26
(C) Data inadequate✓
(D) It is not possible

7. **Some boys sitting in a row, P is sitting fourteenth from the left and Q is seventh from the right. If there are four boys between P and Q, how many boys are there in the row?**
(A) 25✓ (B) 23
(C) 21 (D) None

8. **If the fifth day of a month is Friday, what is the day on the 4th day before 26th of that month?**
(A) Sunday **(B) Monday✓**
(C) Thursday (D) None of these

9. **In a particular month, all the four Sunday's fall on 3rd, 10th, 17th, 24th, respectively. If the first day of that month is Friday, what will be the first day of the next month?**
(A) Monday (B) Thursday
(C) Wednesday
(D) Data inadequate✓

10. **Aman remembers that his father birthday is after 16th but before 21st of March, while his brother Munir remembers that his father's birthday is before 22nd but after 19th of March. On which date is the birthday of their father?**
(A) 12th **(B) 20th✓**
(C) 18th
(D) Can't be determined

11. **Shabbir is seventeenth from the left end of a row of 29 boys and Kamran is 17th from the right end in the same row. How many boys are there in between in the row?**
(A) 3✓ (B) 7
(C) 9
(D) Data inadequate

12. **Noor ranks 18th in a class of 49 students. What is his rank from the last?**
(A) 12 (B) 17
(C) 30 **(D) 32✓**

13. **How many 9's are there in the following sequence which are immediately followed by 2 and also immediately preceded by 3?**
14. **3924, 3923, 9392, 3929, 3**
(A) Nil (B) One
(C) Two (D) Three
(E) More than three✓

15. **How many such 5's are there in the following number sequence which are immediately preceded by 7 or immediately followed by 2?**
5735 3751 6752 4525 7243 1527 58
(A) One (B) Two
(C) Three (D) Four
(E) More than four✓

16. **How many 1's are there in the following sequence which are immediately preceded by 9 but not immediately followed by 7?**
7191 1718 9171 2131 4571 3917
(A) One✓ (B) Two
(C) Three (D) Four
(E) More than four

17. **How many 6's are there in the following number sequence which are immediately preceded by 9 but not immediately followed by 4?**
5443 2963 1649 6496 4215 9672 1474 9642
(A) One **(B) Two✓**
(C) Three (D) Four
(E) More than four

18. **How many 3's are there in the following number sequence which are immediately preceded by 6 but not immediately followed by 7?**
2374 3563 7463 8963 5183 7242 8639
(A) One (B) Two
(C) Three✓ (D) Four
(E) More than four

19. **How many 7's are there in the following number series which are neither followed by 5 nor preceded by 8?**
7587 7587 5578 8557 8758 7788 5
(A) One (B) Two
(C) Three✓ (D) Four
(E) More than four

20. In the series given below, how many 8's are there which are exactly divisible by its immediate preceding as well as succeeding numbers?
2838 2482 4868 2824 8382 86
(A) One (B) Two✓
(C) Three (D) Four
(E) None

21. How many 8's are there in the following series of numbers each of which is immediately preceded by an odd number but is not immediately followed by an even number?
7828 9385 2384 7819 8885
(A) Three (B) Two✓
(C) One (D) Five
(E) None of these

22. In the series given below, how many 9's are there which are not immediately preceded by 3 but are immediately followed by 6?
9623 9656 8296 9542 9596
(A) One (B) Two
(C) Three✓ (D) Four
(E) None of these

23. How many 2's are there in the following sequence which are preceded by 3 as well as followed by 8?
42823 2822 3823 2328 3288 32
(A) One (B) Two
(C) Three✓ (D) Four
(E) None of these

24. Amer's rank is seventh from top in a class of thirty - five students. What is Manzoor's rank from the bottom who is four ranks away from Amer from the top?
(A) 25^{th}✓ (B) 27^{th}
(C) 28^{th} (D) 26^{th}
(E) None of these

25. S is heavier than R, Q is lighter than N, N is heavier than P and lighter than Q. R is heavier than N. Who among them is the heaviest?
(A) R (B) N
(C) Q (D) S✓
(E) None of these

26. In a class, Shuja's rank is fifth from the top and Saleem's rank is ninth from the bottom. If their ranks are interchanged, Saleem became twenty - seventh from the bottom. How many students are there in the class?
(A) 51 (B) 30
(C) 33
(D) Data inadequate
(E) None of these✓

27. B is taller than C and F. N is shorter than C. T is taller than F but shorter than N. Who among them is the shortest?
(A) B (B) T
(C) F
(D) Data inadequate✓
(E) None of these

Directions (Q. 27&28): Aasia is taller than Shazia but shorter than Ghazal. Samia is shorter than Shazia but taller than Minal. Samina is taller than Aasia.

28. Who among them is the shortest?
(A) Samia (B) Shazia
(C) Minal✓
(D) Cannot be determined
(E) None of these

29. Who among them is the tallest?
(A) Samina
(B) Either Ghazal or Samina
(C) Either Samina or Aasia
(D) Ghazal
(E) None of these

30. In a queue at bus stop, Hamid was 17^{th} from the beginning and 19^{th} from the end. Seven persons who were after Hamid left the queue before the bus came. The bus entertains 21 comfortable seats, 4 front engine seats, 4 back seats and 11 standing passengers in serial order from beginning of the queue. Hamid will:
(A) Get a comfortable seat✓
(B) Get a front engine seat
(C) Get a back seat
(D) Have to go standing
(E) Not be allowed into the bus

31. In a class of 23 students, Sajid and Riaz rank 13^{th} and 14^{th} from the beginning. What are their respective ranks from the end?
(A) 10^{th} and 11^{th}

11th and 12th
(C) 11th and 10th✓
(D) 9th and 10th
(E) None of these

32. In the series given below, how many 8's are there which are exactly divisible by its immediate preceding as well as succeeding numbers?
2838 2482 4868 2824 8382 86
(A) One **(B) Two✓**
(C) Three (D) Four
(E) None

33. How many 2's are there in the following sequence which are preceded by 3 as well as followed by 8?
42823 2822 3823 2328 3288 32
(A) One (B) Two
(C) Three✓ (D) Four
(E) None of these

34. Amjad ranks thirteenth in a class of [illegible] one. What is his rank from the last?
(A) 15th (B) 17th
(C) 19th✓ (D) 20th
(E) None

Directions (34-37): Study the following information to answer the given questions.

(a) In a class of boys and girls, Sobia's rank is 6th and Adeel's rank is 12th.

(b) Sobia's rank among the girls in that class is 4th from the top and 16th from bottom and Adeel's rank among the boys is 7th from top and 22nd from bottom.

35. In order of rank, how many girls are there between Sobia and Adeel?
(A) One✓ (B) Two
(C) Three
(D) Cannot be determined
(E) None of these

36. What is the respective ratio of boys and girls in the class?
(A) 3 : 2 (B) 2 : 1
(C) 3 : 1
(D) Cannot be determined
(E) None of these✓

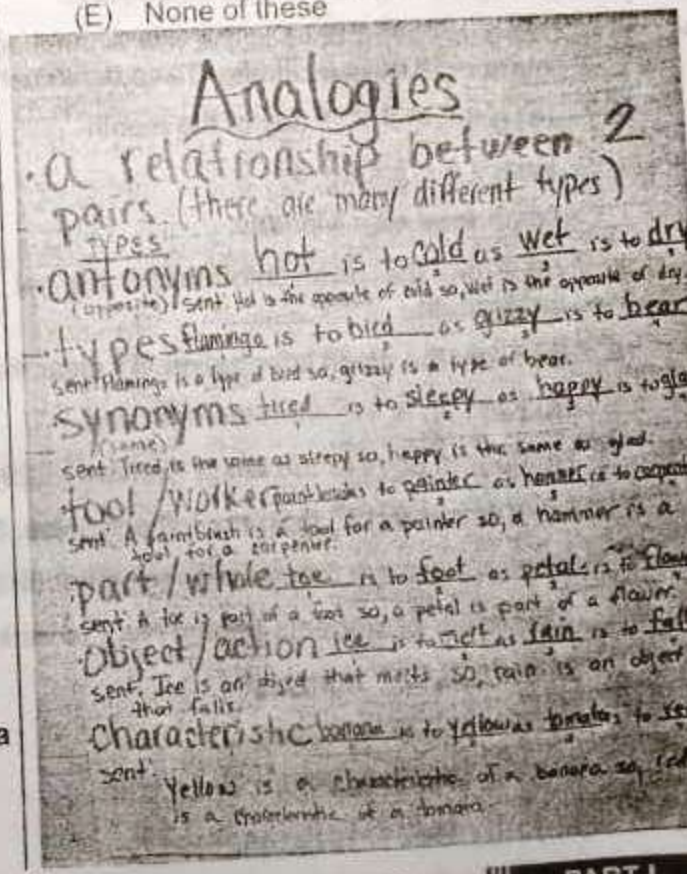
37. How many boys are there between Sobia and Adeel?
(A) Six **(B) Four✓**
(C) Three
(D) Cannot be determined
(E) None of these

38. How many students are there in the class?
(A) 19 (B) 28
(C) 46
(D) Cannot be determined
(E) None of these✓

39. In a car rally Tony, Robin, Thomas, Lucky and Michael are taking a part. Tony is behind Michael but is ahead of Thomas. Michael is behind Lucky but is ahead of Tony. Robin is in the middle. Who is ahead among all of them?
(A) Tony✓ (B) Thomas
(C) Michael (D) Lucky
(E) Robin

40. Amer is taller than Asif but smaller than Kashif. Imran is taller than Kamran but not [illegible] as Sameer. Who is the tallest?
(A) Imran (B) Amer
(C) Kamran (D) Sameer
(E) Kashif✓

41. In a class of 62 students, Farida is ranked 18th. What is her rank from the last?
(A) 43rd (B) 44th
(C) [illegible] (D) 46th
(E) None of these



Hints & Explanations

1. (a) Amer's position from downwards = total students – Amer's position from upwards +1 = 43 – 14 + 1 = 30th.
2. (c) Riaz's position from upwards = total students – Riaz's position from down + 1 = 31 – 9 + 1 = 23rd.
3. (c) Rank of Riaz from the last

   = 23 – 13 + 1 = 11

   And Rank of Shabbir from the last

   = 23 – 13 + 1 = 10
4. (c) Ali is 17 from the last and Raiz is 7 ranks ahead of Ali. So Riaz is 24th from the last.

   Number of students ahead of Riaz in rank = (39 – 24) = 15

   So, Riaz is 16th from the first.
5. (c) Top rank = 11 and bottom rank = 31.

   So, no. of students = 11 + 31 – 1 = 41
6. (c) 13 students + Noor + 7 students

   Total no. of students 13 + 7 + 1 = 21

   Total no. of boys between 1st and the last is 15, but we do not know whether the 1st and the last are boys or girls, so data inadequate.
7. (a) Number of boys in the row = number of boys uptil P + number of boys between P and Q + number of boys including Q and those behind Q = 14 + 4 + 7 = 25
8. (b) (26 – 4) = 22nd day of the month

   Hence 5 + 7 + 7 + 3

   i.e., Friday +3 = Monday.
9. (d) From the given information, it's not clear that month is of 30 days or 31 days. So data inadequate.
10. (b) From the given information, it's clear that the birthday of their father is on 20th March.
11. (a) Kamran is 17th from the right end.

    Number of boys to the left of Kamran = (29 – 17) = 12.

    So, Kamran is 13th from the left end. Also, Shabbir is 17th from the left end.

    Clearly, there are 3 boys between Shabbir and Kamran.
12. (d) Number of students behind Noor in rank = (49 – 18) = 31

    So, Noor is 32nd from last.
13. (e) 3924392393923 9293
14. (e) 5735375167 5245257243152758
15. (a) 7191171891712131457139 17

16. (b) 5443296316496421596721474964 2
17. (c) 2374356374638963518372428639
18. (c) 7587758755788557875877885
19. (b) 2838248248682824838286
20. (b) 7828938523847 8198885
21. (c) 9623969682 9695429596
22. (c) 4282328223823232832 8832
23. (a) Amer Manzoor

    1, 2, 3, ... 7th, 8, 9, 10, 11th, ... 35

    Clearly Manzoor is 11th from the top. So Manzoor's rank from the bottom = 35 – 10 = 25th.
24. (d) (i) S > R (ii) M > Q

    (iii) N > P (iv) N < Q

    (v) R > M ⇒ S > R > M > Q > N > P

    So, S is the heaviest.
25. (e) Present position:

    Shuja Saleem

    1, 2, 3, ... 5th, ... 9th..... 3, 2, 1

    Final Position

    Saleem

    1, 2, 3, 4, 27th, 26, ... 3, 2, 1,

    So, total number of students in the class = 27 + 4 *i.e.*, 31
26. (d) (i) B > C (ii) B > F

    (iii) C > N (iv) T > F

    (v) T < N

    Since the inequalities (i), (ii) and (iii) are inconclusive, the data is inadequate.
27. (c) Aasia > Shazia (ii) Aasia < Ghazal

    (iii) Samia < Shazia (iv) Samia > Minal

    (v) Samina > Aasia

→ Samina and Ghazal > Aasia > Shazia > Samina and Minal.

So Minal is the shortest.

28. (b) Here, since relationship of Samina and Ghazal is not clear so. Either Ghazal or Samina is the tallest.
29. (a) Hamid

    1, 2, 3, ...17th

    ⇒ 19th, 18, 17, ... 3, 2, 1

So total number of persons in the queue = 17 + 18 = 35. Now, since Hamid is 17th from the beginning and there are 21 comfortable seats, so he will definitely get a comfortable seat even if the seven persons after him had stayed there in the queue.

30. (c) Sajjid Riaz

1, 2, 3, 4, ... 13th, 14th, ... 22, 23

So, Sajjid's rank from end = 23 – 12 = 11th and Riaz's rank from end – 23 – 13 = 10th. So, the answer is 11th and 10th, respectively.

31. (b) 28382482486828248382 86

32. (c) 428232822323283288 32

33. (c) The sequence is:

1, 2, 3, ... 12, 13, 14, 15, ... 30, 31

Amjad

34. (a) The number of girls between Sobia and Adeel = 5 – 4 = 1 Girl.

35. (e) the ratio of : Boys and Girls is 28 : 19.

36. (b) The number of boys between Sobia and Adeel = 6 – 2 = 4 boys.

37. (e) The number of students = Boys + Girls = 28 + 19 = 47.

38. (a) (i) Michael > Tony (ii) Tony > Thomas

(iii) Michael < Lucky (iv) Robin is in the middle

→ Lucky > Michael > Robin > Tony > Thomas

So, Lucky is ahead of all of them.

39. (e) (i) Amer > Sameer (ii) Kashif > Amer

(iii) Imran > Kamran (iv) Sameer > Imran

→ Kashif > Amer > Sameer > Imran > Kamran

So, Kashif is the tallest.

40. (c) Do yourself, 62 – 18 = 44 + 1 = 45.

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Blood Relations

Problems on Blood Relations involve analysis of information showing blood relationship among members of a family. In the question, a chain of relationship is given in the form of information and, on the basis of that information, relation between any two members of the chain is asked from the candidate.

Blood Relations – Points to Remember:

- Mother or father's son – Brother
- Mother or father's daughter – Sister
- Mother or father's brother – Uncle
- Mother's or father's sister – Aunt
- Mother's or father's father – Grandfather
- Mother's or father's mother – Grandmother
- Son's wife – Daughter-in-law
- Daughter's husband – Son-in-law
- Husband's or Wife's sister – Sister-in-law
- Husband's or Wife's brother – Brother-in-law
- Brother's son – Nephew
- Brother's daughter – Niece
- Uncle or Aunt' son or Daughter – Cousin
- Sister's husband – Brother-in-law
- Brother's wife – Sister-in-law
- Son/Daughter of Grandson/ Granddaughter – Great grandson/ Great granddaughter

Example 1:

A introduces B saying, "He is the husband of the granddaughter of the father of my father." How is B related to A?

Solution

Father of the father means grandfather. Granddaughter of the grandfather means sister. Husband of the sister means brother-in-law.

So, B is A's brother-in-law.

Example 2:

Introducing Rabia to guests, Amer said, "Her father is the only son of my father." How is Rabia related to Amer?

Solution

The only son of Amer's father is the Amer himself. This means that Amer is the father of Rabia. Hence, Rabia is the daughter of Amer.

Example 3:

'P + K' means P is sister of K. 'P×K' means P is brother of K, and 'P-K' means P is father of K. Which of the following means A is the aunt of B?

(a) A+P+B (b) B-P+A
(c) A-P+B (d) A+P-B
(e) B-P+A

Solution

A+P-B means A is the sister of P and P is father of B. Thus, A is the aunt of B. So, (d) is the answer.

Example 4:

Pointing out to a lady, Sadaf said, "she is the daughter of the woman who is the mother of the husband of my mother." Who is the lady to Sadaf?

Solution

Mother's husband -> Father; Father's mother -> Grandmother

Grandmother's daughter -> Father's Sister; Father's sister -> Aunt

So, Aunt is the answer.

Example 5:

Maria told Mani, "The girl I met yesterday at the beach was the youngest daughter of the brother-in-law of my friend's mother." How is the girl related to Maria's friend.

Solution

Daughter of brother-in-law -> Niece; Mother's niece -> Cousin

So, the girl is the cousin of Maria's friend.

Practice Test

1. **Pointing to a photograph of a boy Ali said, 'He is the son of the only son of my mother." How is Ali related to that boy?**
(A) Sister (B) Mother
(C) Cousin **(D) Father✓**

2. **If A + B means A is the mother of B; A – B means A is the brother of B; A % B means A is the father of B and A × B means A is the sister of B, which of the following shows that P is the maternal uncle of Q?**
(A) Q + N – M × P
(B) P – S × N + Q
(C) P – M + N × Q✓
(D) Q – S % P

3. **If A is the brother of B; B is the sister of C; and C is the father of D. How D is related to A?**
(A) Father (B) Mother
(C) Nephew
(D) Cannot be determined✓

4. **If A + B means A is the brother of B; A – B means A is the sister of B and A × B means A is the father of B. Which of the following means that C is the son of M?**
(A) M – N – C – F
(B) F + C – N + M
(C) N + M – F × C
(D) M × N – C + F✓

5. **Introducing a boy, a girl said, "He is the son of the daughter of the father of my uncle." How is the boy related to the girl?**
(A) Brother✓ (B) Sister
(C) Grandfather (D) Son-in-law

6. **Introducing a man, a woman said, "He is the only son of the mother of my mother." How is the woman related to the man?**
(A) Uncle (B) Brother
(C) Niece✓ (D) Maternal aunt

7. **Pointing to Ali, Fareeha says, "I am the daughter of the only son of his grandfather." How Fareeha is related to Ali?**
(A) Nephew (B) Mother
(C) Sister✓
(D) Can't be determined

8. A's son B is married with C, whose sister D is married to E, the brother of B. How D is related to A?
(A) Father
(B) Daughter-in-law✓
(C) Uncle
(D) Cousin

9. Pointing to a lady a person said, "The son of her only brother is the brother of my wife." How is the lady related to the person?
(A) Sister (B) Niece
(C) Sister of father-in-law✓
(D) None of these

10. Pointing to a photograph of a girl Ayesha said, "She is the daughter of the only daughter of my mother." How is Ayesha related to that girl?
(A) Grandmother
(B) Aunt
(C) Nephew
(D) Mother✓

11. Pointing to a photograph, Wajid said, "He is the son of the only daughter of the father of my brother." How Wajid is related to the man in the photograph?
(A) Nephew (B) Mother
(C) Cousin
(D) Maternal uncle✓

12. Pointing to a photograph, Faryal says, "He is the son of the only son of my grandfather." How is the man in the photograph related to Faryal?
(A) Brother✓ (B) Father
(C) Cousin
(D) Data is inadequate

13. Amer, introducing a girl in a party, said, she is the wife of the grandson of my mother. How is Amer related to the girl?
(A) Brother (B) Uncle
(C) Husband
(D) Father-in-law✓

14. Introducing Irfan, Shahla said, "His brother's father is the only son of my grandfather." How Shahla is related to Irfan?
(A) Sister✓ (B) Grandmother
(C) Mother (D) None of these

15. Pointing to a photograph, a lady tells John, "I am the only daughter of this lady and her son is your maternal uncle." How is the speaker to John's father?
(A) Sister-in-law **(B) Wife✓**
(C) Neither a nor b
(D) Can't be determined

16. Introducing a man, a woman said, "His wife is the only daughter of my mother." How is the woman related to that man?
(A) Mother **(B) Wife✓**
(C) Mother-in-law
(D) None of these

Direction (Qs. 17-20):
A + B means 'A is father of B'
A – B means 'A is wife of B'
A × B means 'A is brother of B'
A ÷ B means 'A is daughter of B'

17. P+R+S÷Q, which of the following is true?
(A) P is daughter of Q
(B) Q is aunt of R
(C) P is aunt of Q✓
(D) R is mother of Q

18. If P – R + Q, which of the following is true?
(A) P is mother of Q✓
(B) Q is mother of P
(C) P is daughter of Q
(D) P is sister of Q

19. P × R ÷ Q, which of the following is true?
(A) P is uncle of R
(B) P is grandfather of Q
(C) P is brother of Q
(D) P is son of Q✓

20. If P×R–Q, which of the following is true?
(A) P is brother-in-law of Q✓
(B) P is brother of Q
(C) P is uncle of Q
(D) P is father of Q

Directions: (Q.21-24): Read the following information to answer the given questions:

(i) B is the mother of D but D is not daughter of B.
(ii) A is son of M and brother of G.
(iii) G is sister of D.

21. **Which of the following is not true?**
(A) **D, A and G are cousins✓**
(B) D is the brother of A
(C) G is sister of D
(D) A is brother of G
(E) G is the daughter of B

22. **Which of the following cannot be inferred from the information given?**
(A) B has three children
(B) M has two sons
(C) A is younger to D✓
(D) G is younger to B
(E) B has one daughter

23. **What is M to B?**
(A) Wife **(B) Son✓**
(C) Father
(D) Cannot be determined
(E) None of these

24. **Which of the following is true?**
(A) B is mother of M
(B) D is daughter of M
(C) M is husband of B✓
(D) G has only one brother
(E) E is daughter of A

Qs of the day (Relationship):

➤ **Cause and effect**

e.g., Race : Fatigue

(a) French : Athlete (b) Fast : Hunger
(c) Art : Bug (d) Walking : Running

Ans. is (b). Because 'fatigue' is caused by 'race' and 'hunger' is caused by 'fast'.

➤ **Symbol**

e.g., Flag : Nation

(a) Bird : Peacock (b) Elephant : State
(c) Insignia : Rank (d) Profile : Portrait

Ans. is (c).

➤ **Class—Species**

e.g., Reptile : Snake

(a) Man : Snake (b) Woman : Girl
(c) Whale : Shark (d) Son : Daughter

Ans. is (b).

Directions (Q. 25 - 27): Read the following information to answer the questions given below.
(i) 'A - B' means 'A is husband of B'
(ii) 'A + B' means 'A is daughter of B'
(iii) 'A × B' means 'A is mother of B'

25. **Which of the following would definitely indicate that R is son of Z?**
(A) Z-Y×R **(B) Z×R-Y✓**
(C) Z×R (D) Z×R×Y
(E) one of these

26. **If A×D×B–C, then which of the following is not true?**
(A) B is son of D
(B) D is mother-in-law of C
(C) C is daughter of D✓
(D) B is husband of C
(E) D is daughter of A

27. **Which of the following would definitely indicate that A is the mother-in-law of C?**
(A) D-A×M-C✓ (B) A×M×C
(C) M-C+A (D) C+M-D×A
(E) None of these

28. **Pointing to a lady, a man said, "The son of her only brother is the brother of my wife." How is the lady related to the man?**
(A) Mother's sister✓
(B) Grandmother
(C) Mother-in-law
(D) Sister of father-in-law
(E) Maternal aunt

29. **Introducing a woman, a man said, 'He is mother's husband's sister is my aunt. How is the man related to the woman?**
(A) Nephew (B) Brother
(C) Brother-in-law
(D) Cousin✓
(E) Uncle

30. **P & Q are brothers, R and S are sisters. P's son is S's brother. How is Q related to R?**
(A) Father (B) Brother
(C) Uncle✓ (D) Grandfather
(E) None of these

Hints & Explanations

1. (d) The boy in the photograph is the only son of the son of Ali's mother *i.e.*, the son of Ali. Hence, Ali is the father of boy.

2. (c) P – M = P is the brother of M.

   M + N = M is the mother of N

   N × Q = N is the sister of Q

   Therefore, P is maternal uncle of Q.

3. (d) If D is Male, the answer is Nephew. If D is Female, the answer is Niece. As the sex of D is not known, hence, the relation between D and A cannot be determined.

4. (d) M × N = M is the father of N

   N – C = N is the sister of C and F + F = F is the brother of F.

   Hence, M is the father of C or C is the son of M

5. (a) The father of the boy's uncle = the grandfather of the boy and daughter of the grandfather = sister of father.

6. (c) The man is the only son of the mother of the woman. Hence, the man is the maternal uncle of the woman. So, the woman is the niece of the man.

7. (c) Fareeha is the daughter of the only son of Ali's grandfather. Hence, it's clear that Fareeha is the sister of Ali.

8. (b) Since E is the brother of B.

   Therefore, A is the father of E,

   but D is the wife of E.

   Hence, D is the daughter-in-law of A.

9. (c) Brother of person's wife = brother-in- law of the person. Hence, the son of lady's brother is brother-in-law of the person. Therefore, the brother of the lady is the father-in-law of the person. Hence, the lady is the sister of the person's father-in-law.

10. (d) The girl in the photograph is the only daughter of the daughter of Ayesha's mother *i.e.*, the daughter of Ayesha. Hence, Ayesha is the mother of girl.

11. (d) The man in the photo is the son of the sister of Wajid. Hence, Wajid is the maternal uncle of the man in the photograph.

12. (a) The man in the photograph is the son of the only son of Faryal's grandfather *i.e.*, the man is the son of Faryal's father. Hence, the man is the brother of Faryal.

13. (d) Clearly, the grandson of Amer's mother is Amer and wife of Amer's son is daughter-in-law of Amer. Thus, Amer is father-in-law of the girl.

14. (a) Father of Shahla's brother is the father of Shahla. Shahla's father is the only son of Shahla's grandfather. Hence, Irfan's father is Shahla's father. So, Shahla is the sister of Shahla.

15. (b) Clearly, the speaker's brother is John's maternal uncle. So, that speaker is John's mother or his father's wife.

16. (b) Clearly, only daughter of her mother is woman herself. So, that woman is the wife of man.
17. (c) 'S+Q' and 'P+S' means R is the grandfather of Q. Now P÷R means P is daughter of R. This clearly means P is aunt of Q.
18. (a) P–R+Q, represents R is the father of Q, and P is the wife of R. So, P is the mother of Q.
19. (d) R is the daughter of Q and P is the brother of R. So, P is son of Q.
20. (a) Clearly, P is related as brother-in-law to Q.

(Q.21 to 24) The available information clearly indicates that M & B are husband and wife and that they have three children - two suns D & A and one daughter G.

21. (a) Here D, A & G are real brother and sister.
22. (c) There is no information by which age of A & D can be determined.
23. (b) M is the husband of B.
24. (c) Except (c) rest all statements are not correct with the given information.
25. (b) Following information can be derived from Z×R-Y

    (I) Z × R – Y means 'S is mother of R'

    (ii) R – Y means 'R is husband of Y'

    So, R is the son of Z.
26. Following can be derived from A×D×B – C:

    (i) A × D means 'A is mother of D'

    (ii) D × B means 'D is mother of B'

    (iii) B – C means 'B is husband of C'
27. (a) Following information can be derived from D – A × M – C

    (i) D – A means 'D is husband of A'

    (ii) A × M means 'A is mother of M'

    (iii) M – C means 'M is husband of C'

    So, A is mother-in-law of C.
28. The son of the lady's brother is the brother-in-law of the man (*i.e.*, brother of wife). So the lady's brother is father-in-law of the man and thus, the lady is the sister of father-in-law of the man.
29. (d) Do yourself.
30. (c) P's son is brother of S; R & S are both sisters, so P has three children *i.e.*, two daughters and one son. So, Q the brother of P, is uncle of R, who is one of the daughter of P.

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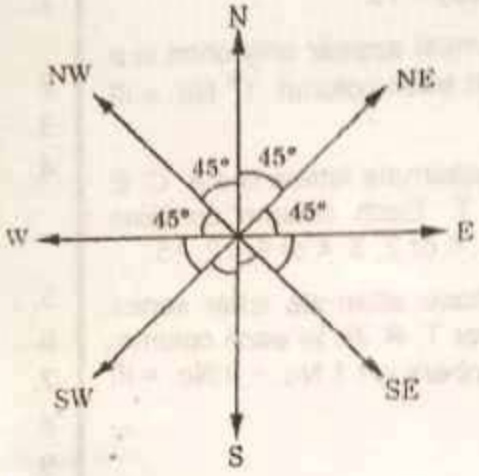
Direction Test

This chapter deals with the linear distance and direction between two points in two, dimensional plane. To solve the problems based on distance and direction, the sense of direction and standard trigonometrical ratios are important.

1.



2. In any right - angled triangle,

$$p^2 + b^2 = h^2$$

Practice Test

1. **Amer started walking towards North. After walking 30 metres, he turned left and walked 40 metres. He then turned left and walked 500 metres. He again turned left and walked 50 metres. How far was he from the original position?**
   (A) 50 metres (B) 40 metres
   (C) 30 metres
   (D) None of these✓

2. **Imran goes 30 metres North, then turns right and walks 40 metres, then again turns right and walks 20 metres, then again turns right and walks 40 metres. How many metres is he from his original position?**
   (A) 0 m **(B) 10 m✓**
   (C) 20 m (D) 50 m

3. **A man walks 6 km to the east and then turns to the south and walks 5 kms. Again he turns to the east and walks 6 km. Next he turns northwards and walks 10 km. How far is he now from his starting point?**
   (A) 9 kms (B) 11 kms
   (C) 13 kms✓ (D) 15 kms

4. A man travels 12 km west, then 3 km south and 8 km east. How many km is he from his original position?
(A) 23 km (B) 20 km
(C) 15 km **(D) 5 km✓**

5. Irfan walks 9 kms eastward and then 12 kms southward. How far is he from the starting point?
(A) 15 kms (B) 6 kms
(C) 5 kms **(D) 3 kms✓**

6. A girl leaves from her home. She walks 30 metres in north-west direction and then 30 metres in south-west direction. Next she walks 30 metres in south-east direction. Finally, she turns towards her home. In which direction is she moving?
(A) North-east✓ (B) South-east
(C) North-west (D) South-west

7. A man walks 30 metres towards south. Then turning to his right, he walks 30 metres. Then, turning to his left, he walks 20 metres. Again, he turns to his left and walks 30 metres. How far is he from his initial position?
(A) 30 metres **(B) 50 metres✓**
(C) 80 metres (D) 60 metres

8. Facing towards the south, Tariq started walking and turned left after walking 30 metres. He then walked 25 metres and turned left and moved a distance of 30 metres. How far is he from his starting position and in which direction?
(A) At the starting point
(B) 25 metres West
(C) 25 metres West✓
(D) 30 metres East

9. Ahad went 15 kms to the west from my house, then turned left and walked 20 kms. He then turned east and walked 25 kms and finally turning left covered 20 kms. How far was he from his house?
(A) 5 kms **(B) 10 kms✓**
(C) 40 kms (D) 80 kms

10. A man travels 12 km towards west and goes 3 km towards south. Finally, he goes 8 kms northwards. How far is he from the starting point?
(A) 23 kms (B) 20 kms
(C) 15 kms **(D) 5 kms✓**

11. A man goes 5 kms towards east. Thereafter, he turns south-west and goes 5 kms, then he again turns north-west and goes 5 kms. In which direction is he from the starting point?
(A) Original place **(B) West✓**
(C) East (D) North-east

12. Four players A, B, C and D are playing cards. A is on the right of B and D is on the left of C. Then which of the following pair is partner?
(A) A and B (B) D and C
(C) B and D✓ (D) A and D

13. 'A' travelled westward 5 kms, turned left and travelled 3 kms then turned right and travelled 9 kms. He then travelled north 3 kms. How far was 'A' from the starting point?
(A) 3 kms (B) 5 kms
(C) 10 kms **(D) 14 kms✓**

14. Facing east, Fahad turned to his left and walked 10 metres, then turned to his left and walked 10 metres and then turned 45° right and went straight 25 metres. Now, in which direction, Fahad is from the starting point?
(A) Sourth-west (B) South-east
(C) North-west✓ (D) North-east

15. If A is to the south of B and C is to the east of B, in what direction is A in respect to C?
(A) North-east (B) North-west
(C) South-east **(D) Souht-west✓**

16. A man walks 10 kms towards north. Then he walks 6 kms towards south. Then he walks 3 kms towards east. How far and in which direction is he with reference to his starting point?
(A) 7 kms east (B) 5 kms west
(C) 5 kms north-east✓
(D) 7 Kms west

17. One fine morning, A and B were standing in a lawn with their backs towards each other. As shadow fell exactly towards left hand side. Which direction was B facing?
(A) East (B) West
(C) North **(D) South✓**

18. B is to south-west of A, C is to the east of B and south-east of A and D is to north of

C in line with BA. In which direction of A is D located?
(A) North-east✓ (B) South-east
(C) East (D) North

19. The time on the watch is quarter to three. If the minute-hand points to north-east, in which direction does the hour hand point?
(A) South-east (B) South-west✓
(C) North-west (D) North-east

20. A person walks 20 metres north. Then he turns right and walks 30 metres. Now he turns right and walks 35 metres. Now, turning left, he walks 15 metres. Again, he turns left and moves 15 metres. Finally, turning left, he again walks 15 metres. In which direction and how many metres is he from his original position?
(A) 15 m East (B) 45 m East✓
(C) 15 m West (D) 45 m West

21. In a class of 35 students, Mahad is placed 7th from the bottom whereas Fahad is placed 9th from the top. Ahad is placed exactly in between the two. What is Mahad's position from Ahad?
(A) 10✓ (B) 11
(C) 13 (D) 12

22. At my house I am facing east, then I turn left and go 10 m, then turn right and go 5 m, and then I go 5 m towards the south and from there 5 m towards the west. In which direction am I from my house?
(A) East (B) West
(C) North✓ (D) South

23. My friend and I started walking simultaneously towards each other from two places 100 m apart. After walking 30 m, my friend turns left and goes 10 m, then he turns right and goes 20 m and then turns right again and comes back to the road on which he had started walking. If we walk with the same speed, what is the distance between us at this point of time?
(A) 50 m (B) 20 m✓
(C) 30 m (D) 40 m

24. A watch reads 4.30 O'clock. If minute hand points towards the east, in which direction does the hour hand point?
(A) North-east✓ (B) South-east
(C) North-west (D) North

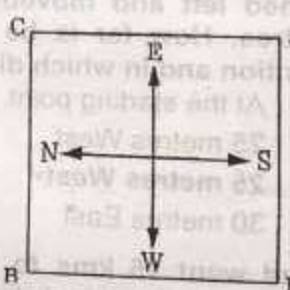
25. A man travels 3 km to the west, turns left and goes 3 km, turns right and goes 1 km, again turns right and goes 3 km. How far is he from the starting point?
(A) 7 km (B) 6 km
(C) 5 km✓ (D) 4 km

26. A and B start walking in opposite directions. A covers 3 km and B covers 4 km. Then A turns right and walks 4 km while B turns left and walks 3 km. How far is each from the starting point?
(A) 5 km✓ (B) 4 km
(C) 10 km (D) 8 km

27. Kamran walks 10 m south from his house, turns left and walks 25 m, again turns left and walks 40 m, then turns right and walks 5 m to reach to the school. In which direction the school is from his hosue?
(A) South-west (B) North-east✓
(C) East (D) North

28. 'A' is east of 'B' and west of 'C', 'H' is south-west of 'C' and 'B' is south-east of 'X', who is the farthest west?
(A) C (B) A
(C) X (D) B✓

Directions (Qs. 29-33): These questions are based on the diagram given below showing four persons stationed at the four corners of a square piece of plot as shown:



29. A starts crossing the plot diagonally. After walking half the distance, he turns right, walks some distance and turns left. Which direction is A facing now?
(A) North-east (B) North
(C) North-west✓ (D) South-east

30. From the original position given in the above figure, A and B move one arm length clockwise and then cross over to the corner diagonally opposite; C and D move one arm length anti-clockwise, and cross over the corner diagonally opposite

The original configuration ADBC has now changed to:
(A) CBDA✓ (B) DACB
(C) BDAC (D) ACBD

31. From the original position, B and D move one and a half length of sides clockwise and anti-clockwise respectively. Which one of the following statements is true?
(A) B and D are both at the midpoint between A and C✓
(B) B is at the midpoint between A and C, and D is at the corner originally occupied by A
(C) D is at the midpoint between A and C, and B is at the corner originally occupied by C
(D) B and D are both at the midpoint between A and D

32. From the positions in the original figure, C and A move diagonally to opposite corners and then one side each clockwise and anti-clockwise, respectively. B and D move two sides each clockwise and anti-clockwise, respectively. Where is A now?
(A) At the north-west corner
(B) At the south-east corner
(C) At the north-east corner
(D) At the south-west corner✓

33. After the movements given in the above question, who is the north-west corner?
(A) A (B) C✓
(C) B (D) D

34. Two buses start from the opposite point of a main road, 150 km apart. The first bus runs for 25 km, takes a right turn and then runs for 15 km. It then turns left, runs for another 25 km and takes the direction back to reach the main road. In the meantime, due to a minor breakdown, the other bus has run only 35 km along the main road. What would be the distance between the two buses at this point?
(A) 65 km✓ (B) 80 cm
(C) 75 km (D) 85 cm

35. A postman was returning to the post office which was in front of him to the north. When the post office was 100 metres away from him, he turned to the left and moved 50 metres to deliver the last letter at Aziz Mansion. He then moved in the same direction for 40 metres, turned to his right and moved 100 metres. How many metres away he was now from the post office?
(A) 0 (B) 150
(C) 90✓ (D) 100

36. John went 15 km to the west from my house, then turned left and walked 20 km. He then turned east and walked 25 km and finally turning left covered 20 km. How far was he from my house?
(A) 5 km (B) 10 km✓
(C) 40 km (D) 80 km

37. From a point, Asif started walking towards east and walked 35 m. He then turned towards his right and walked 20 m and he again turned right and walked 35 m. Finally, he turned to his left and walked 20 m and reached his destination. Now, how far is he from his starting point?
(A) 55 m (B) 50 m
(C) 20 m (D) 40 m✓

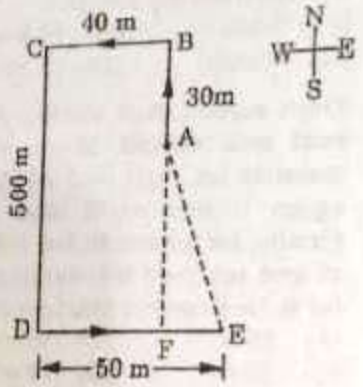
38. A directional post is erected on a crossing. In an accident, it was turned in such a way that the arrow which was first showing east is now showing south. A passerby went in a wrong direction thinking it is west. In which direction is he actually travelling now?
(A) North (B) South✓
(C) East (D) West

39. Jawad walks 10 m south from his house, turns left and walks 23 m, again turns left and walks 40 m, then turns right and walks 5 m to reach his school. In which direction is school from his house?
(A) East (B) North-east✓
(C) South-west (D) North

40. I am facing west I turn 45° in the clockwise direction and then 180 in the same direction and then 270 anti-clockwise. Which direction am I facing now?
(A) South-west✓
(B) South
(C) West
(D) North-west

Hints & Solutions

1. (d) Amer's movements are shown in the adjacent figure. Figure A is the starting point. E is the terminating point, Here,

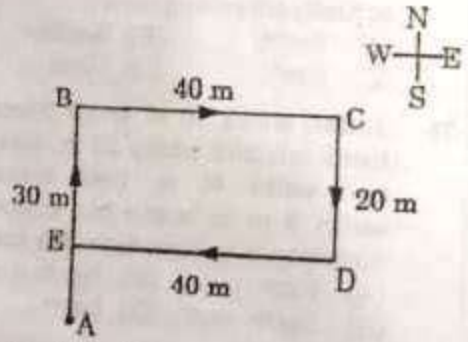


$FE = DE - DF = 50 - 40 = 10$ m

$AF = BF - AB = 500 - 30 = 470$ m

$\therefore AE = \sqrt{(470^2 + 10^2)} = 470.11$ m

2. (b) Imran's movements are shown in the adjacent figure. A is the starting point. Here, $CD = BE = 20$ m



$AE = AB - BE = 30 - 20 = 10$ m

$\therefore$ The man is 10 meters away from the starting point.

3. (c) Try yourself.

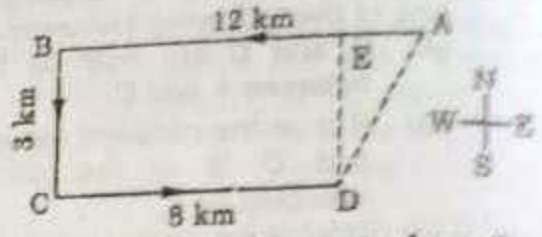
4. (d) Man's movements are shown in the figure. A is the starting point. D is the terminating point. Here,

$DE = BC = 3$ km

$AE = AB - BE = 12 - 8 = 4$ km

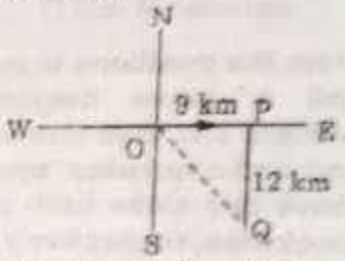
$\therefore AD = \sqrt{(DE^2 + AE^2)}$

$= \sqrt{(3^2 + 4^2)} = 5$ km



$\therefore$ The man is 5 km away from the initial position.

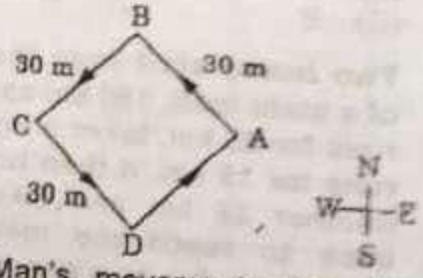
5. (d) The movements of Mr. Irfan are shown in the adjacent figure. O is the starting point.



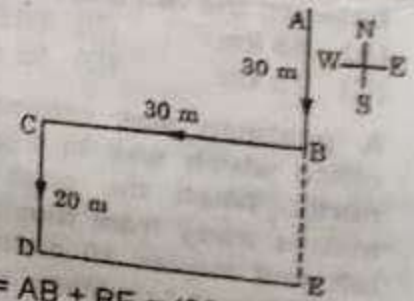
$\therefore OQ = \sqrt{(OP^2 + PQ^2)} = \sqrt{(9^2 + 12^2)}$

$= \sqrt{(225)} = 15$ km

6. (a) Movements of the girl are shown in the adjacent figure. A is the starting point. Finally she is at D looking towards A. So, she is moving in the direction DA, *i.e.*, in North-east direction.



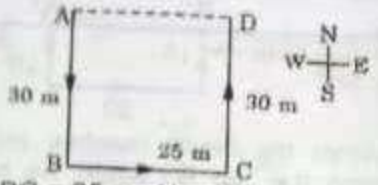
7. (b) Man's movements are shown in the figure. A is the starting point. Now, the man's distance from the original position.



$= AE = AB + BE = (30 + 20)$ m

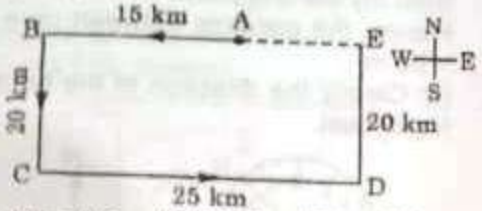
$= 50$ m

8. (c) Tariq's movements are shown in the figure. A is the starting point. Here, Tariq's distance from A is:



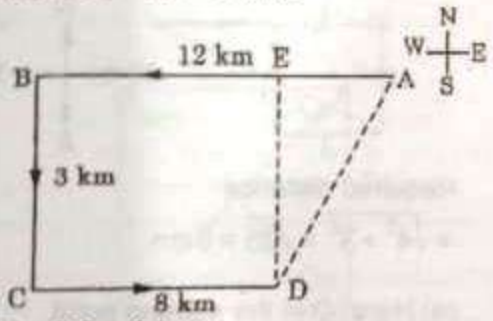
AD = BC = 25 m. Also D is in east of A.
So, Tariq is 25 m to the east of starting point.

9. (b) The movements of Ahad are shown in the figure. Here, A is the starting point, Ahad's distance from E.



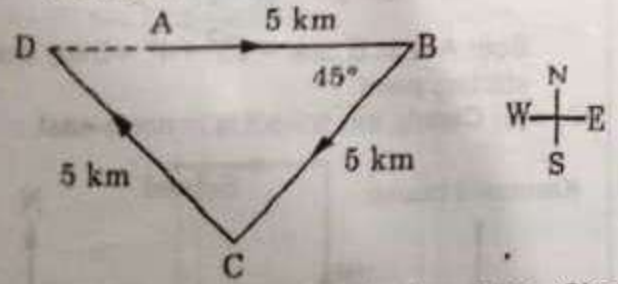
= AE = BE – AB = (25 – 15) = 10 km

10. (d) Man's movements are shown in the figure. A is the starting point and D is the terminating point.
Here, CD = BE = 8 kms



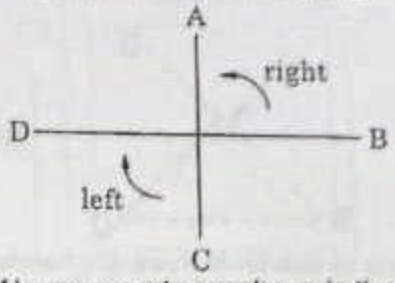
DE = BC = 3 kms
AE = AB – BE = 12 – 8 = 4 kms
∴ AD = $\sqrt{(AE^2 + DE^2)}$ = $\sqrt{(16 + 9)}$
= 5 kms

11. (b) The movements of the man are shown in the figure. A is the starting

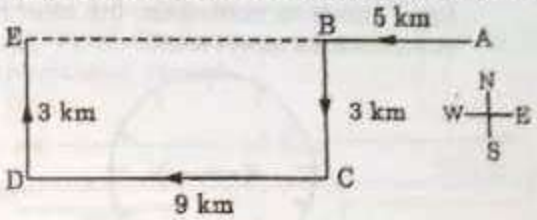


point and D is the terminating place. Clearly the man is in direction AD, *i.e.*, in the west of his starting point.

12. (c) The positions of the four players is shown in the figure. So, B and D are printer.

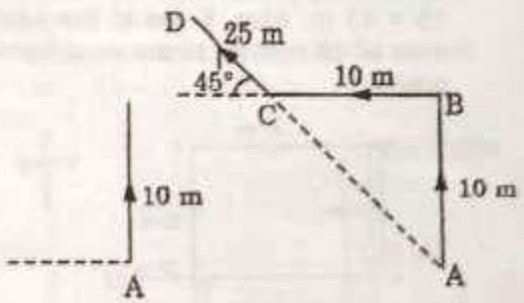


13. (d) A's movements are shown in the figure.



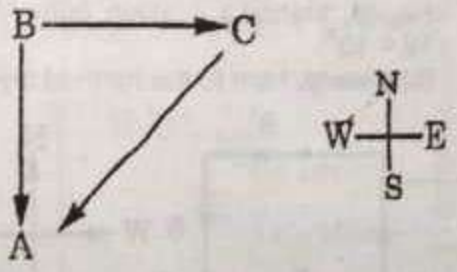
Here, BE = CD = 9 kms
Also, AE = AB + BE = (5 + 9) = 14 kms.

14. (c) Fahad's movements are shown in the figure.



As the starting and D the terminating point. So finally Fahad is in AD direction, *i.e.*, in the north-west direction.

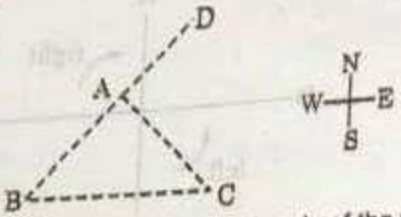
15. (d) The positions of A, B and C are shown in the figure. Clearly, the direction of A in respect of C is South-west.



16. (c) Do yourself.

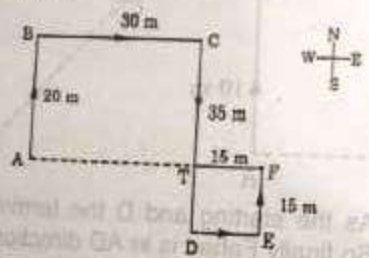
17. (d) Because A's shadow fell towards left hand side, so A must be facing north and B standing with his back towards A, will be facing south.

18. (a) The positions of A, B, C and D is shown in the figure. Clearly, D is located north-east of A.



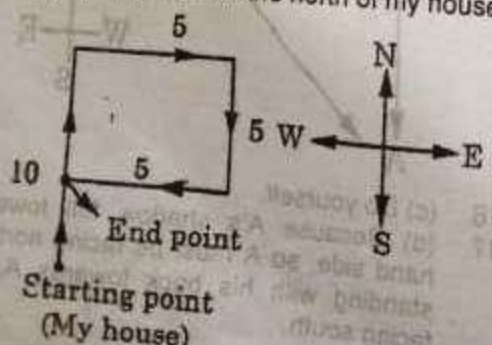
19. (b) At quarter to three, the hands of the watch are shown in the figure. Thus, if the minute hand points to north-east, the hour hand will point towards south-west.

20. (b) Person's movements are shown in the figure. A is the starting point and F is the terminating point. Here, AF = AT + TF = 30 + 15 = 45 m. Also, F lies to the east of A. So man is 45 metres to the east from his initial position.

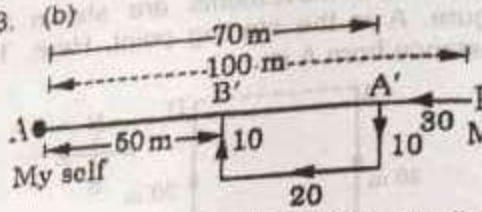


21. (a) Position of Mahad from the top = [35 – 7] + 1 = 29th Position of Ahad from the top = 9th. Difference of their positions = 29 – 9 = 20.
∴ Ahad's position from top = 9 + 10 = 19th.
Hence, Mahad's position from Ahad = 29 – 19 = 10th.

22. (c) Clearly, I am to the north of my house.

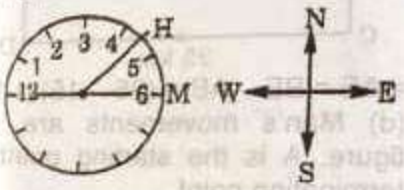


23. (b)

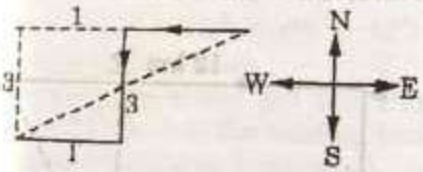


When my friend reaches on the previous track (*i.e.*, on B') again, he had travelled a distance of (30 + 10 + 20 + 10) = 70 m. As I walk with the same speed as that of my friend I have walked 70 m, but on the straight track. Now, he is just [100 – (30 + 20] = 50 m from my starting point.
Hence, the distance between us = (70 – 50) = 20 m

24. (a) Clearly the direction of the hour's hand is North-east.

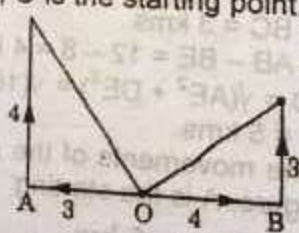


25. (c)



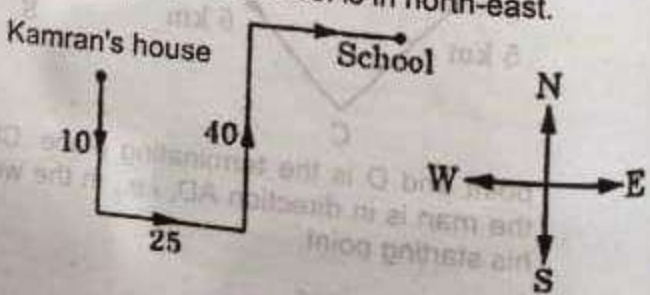
Required distance
$= \sqrt{4^2+3^2} = \sqrt{25} = 5\,\text{km}$

26. (a) Here, O is the starting point.

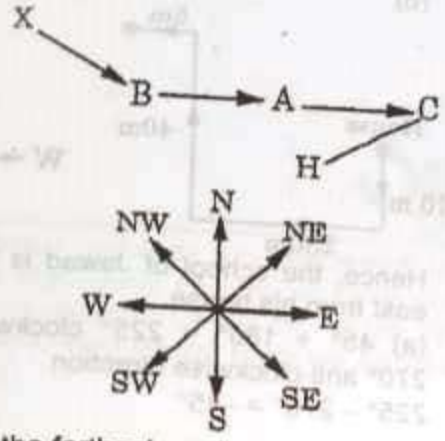


Both A and B are $= \sqrt{3^2+4^2} = 5\,\text{km}$ from the starting point.

27. (b) Clearly the school is in north-east.

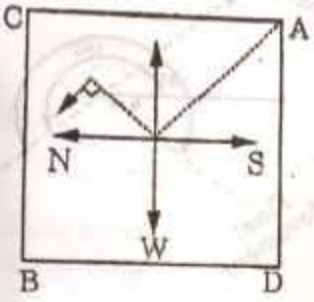


28. (d)

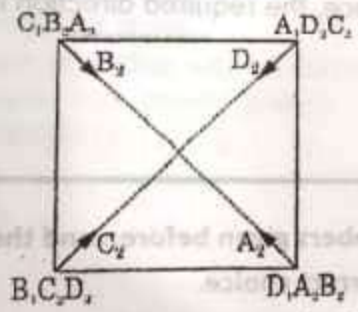


B is the farthest west.

29. (c) A's final position



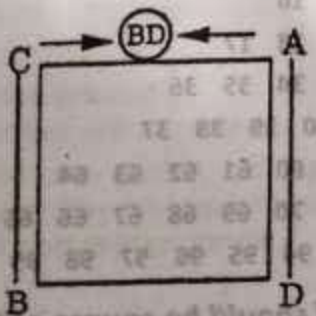
30. (a)



Hence, final configuration of ADBC has now CBDA.

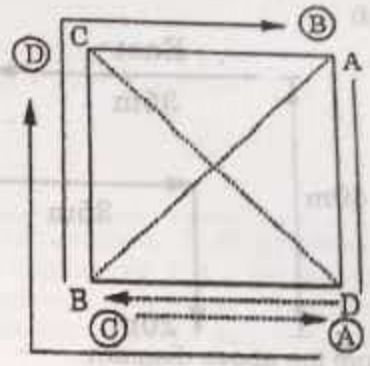
$A_1B_1C_1$ and D_1 are original position of A, B, C & D $A_2B_2C_2$ and D_2 are position after 1st movement of A, B, C and D. A_3, B_3, C_3 and D_3 are final position.

31. (a)



Hence B and D are the mid-points between A and C.

32. (d)



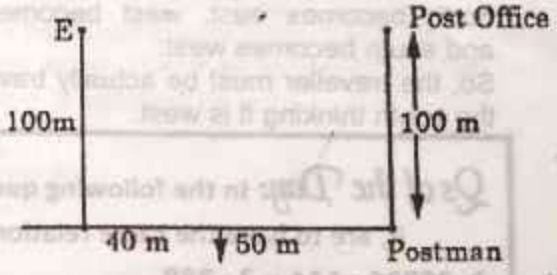
33. (b) From the above diagram, C is at the north-west corner.

34. (a)

Distance travelled by bus A = 50 km and B = 35 km

∴ Distance between the two buses left = 150 – 35 – 50 = 65 km

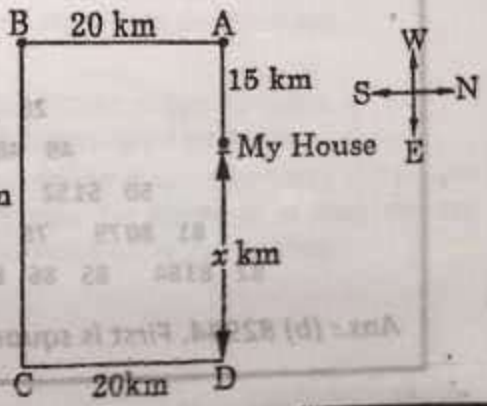
35. (c)



Aziz Mansion

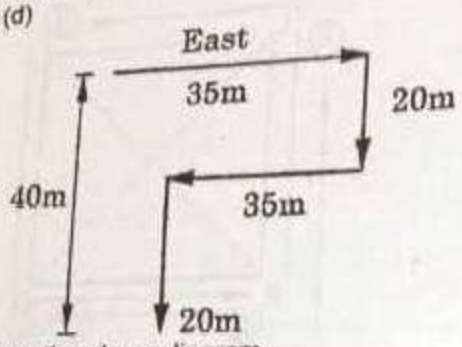
From the diagram, E is the final point where postman has reached. Hence his distance from the post office = 40 + 50 = 90 m.

36. (b)



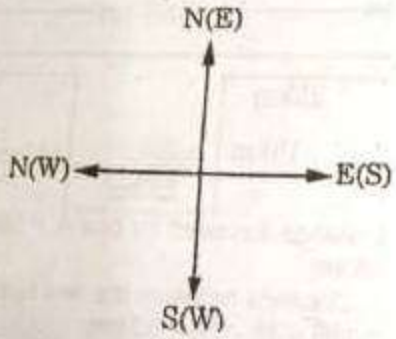
xkm = 25 – 15 = 10 km

37. (d)



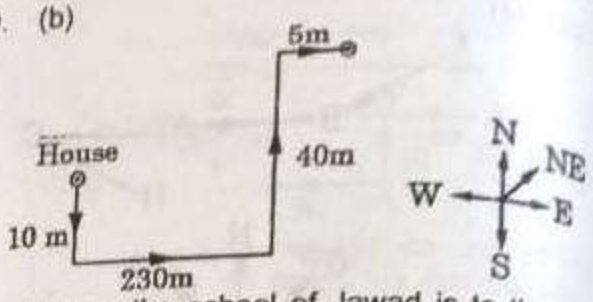
From the above diagram,
Total distance from the starting point
= 20 m + 20 m = 40 m.

38. (b)



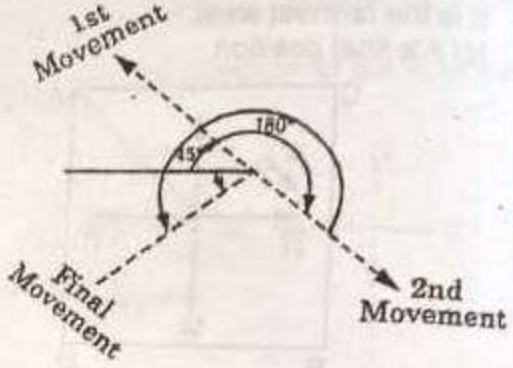
When the arrow turns, east becomes south, north becomes east, west becomes north and south becomes west.
So, the traveller must be actually travelling in the south thinking it is west.

39. (b)



Hence, the school of Jawad is to the north-east from his house.

40. (a) 45° + 180° = 225° clockwise direction
270° anti-clockwise direction
225° – 270° = –45°



i.e., 45° anti-clockwise from initial position
Hence, the required direction is south-west.

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Qs of the Day: **In the following question the two numbers given before:: and the two after it, are to have the same relationship. Tick mark correct choice.**

➤ **20736 : 144 :: ? : 288**

(a) 63702 (b) 82944
(c) 41468 (d) 44928

1
2 3 4
9 8 7 6 5
10 11 12 13 14 15 16
25 24 23 22 21 20 19 18 17
26 27 28 29 30 31 32 33 34 35 36
49 48 46 45 44 43 42 41 40 39 38 37
50 51 52 53 54 55 56 57 58 59 60 61 62 63 64
81 80 79 78 77 76 75 74 73 72 71 70 69 68 67 66 65
82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Ans.: (b) 82944. First is square of second. So the third should be square of Fourth.

Analytical Reasoning

Directions: (Q. 1-4): Read the following information carefully and answer the questions that follow:

Six boys A, B, C, D, E and F are marching in a line. They are arranged according to their height, the tallest being at the back and the shortest in front,

F is between B and A.

E is shorter than D but taller than C who is taller than A.

E and F have two boys between them.

A is not the shortest among them.

1. **Where is E?**
   (A) Between A and B
   (B) Between C and A
   (C) Between D and C✓
   (D) In front of C

2. **Who is the tallest?**
   (A) B **(B) D✓**
   (C) F (D) A

3. **If we start counting from the shortest, which boy is fourth one in the line?**
   (A) E (B) A
   (C) D **(D) C✓**

4. **Who is the shortest?**
   (A) C (B) D
   (C) B✓ (D) F

Directions (Q. 5-8): Study the following paragraph and then answer the questions that follow:

Five golfers C, D, E, F and G play a series of matches in which the following are always true of the results. Either C is the last and G is the 1st or C is the first and G is the last. D finishes ahead of E. Every golfer plays in and finishes every match. There are no ties in any match, *i.e.*, no two players ever finish in the same position in a match.

5. **Which of the following cannot be true?**
   (A) E finishes second✓
   (B) F finishes second
   (C) E finishes ahead of F
   (D) F finishes ahead of D

6. **If D finishes third, then which of the following must be true?**
   (A) G finishes first
   (B) E finishes ahead of F
   (C) F finishes ahead of E✓
   (D) F finishes behind D

7. **If C finishes first, then in how many different orders is it possible for the other golfers to finish?**
   (A) 1 (B) 2
   (C) 3✓ (D) 4

8. **Which of the following additional conditions make it certain that F finishes second?**
   (A) C finishes ahead of D
   (B) D finishes ahead of F
   (C) F finishes ahead of D✓
   (D) D finishes behind G

Directions (Q. 9-12): Read the following information carefully to answer the questions that follows:

There are six teachers A, B, C, D, E and F in a school. Each of the teachers teaches two subjects, one compulsory subject and the other optional. D's optional subject is History while three others have it as compulsory subject. E and F have Physics as one of their subjects. F's compulsory subject is Mathematics which is an optional subject of both C and E. History and English are A's subjects but in terms of compulsory and optional subjects, they are reverse of those of D's. Chemistry is an optional subject of any one of them. There is only one female teacher in the school who has English as her compulsory subject.

9. **What is C's compulsory subject?**
   (A) History✓ (B) Physics
   (C) Chemistry (D) English

10. **Who is a female member in the group?**
(A) A (B) B
(C) C (D) D✓

11. **Who among the following has same optional subjects as that of the compulsory subject of F?**
(A) D (B) B
(C) A (D) C✓

12. **Disregarding which is compulsory and which is the optional subject, who has the same two subjects combination as F?**
(A) A (B) B
(C) E✓ (D) D

Directions (Q. 13-15): Read the following statements to answer the questions that follow.

Nine cricket fans are watching a match in a stadium. Seated in one row, they are J, K, L, M, N, O, P, Q and R. L is at the right of M and at third place to the right of N. K is at one end of the row. Q is immediately next to O and P. O is at the third place to the left of K. J is right next to left of O.

13. **Who is sitting in the centre of the row?**
(A) L (B) O
(C) J✓ (D) Q

14. **Who is at the other end of the row?**
(A) R (B) J
(C) P **(D) N✓**

15. **Which of the following statements is true?**
(A) R and P are neighbours
(B) There is one person between L and O✓
(C) M is at one extreme end
(D) N is two seats away from J

Hints & Solutions

1. (c) Cleary, form the following diagram, E is between D and C.

2. (b) D is the tallest.
3. (d) Counting from the shortest, C is the fourth in the line.
4. (c) Clearly, from the above diagram, B is the shortest.
5. (a) Either C or G has to be first and D has to come before E. Hence, E cannot finish second.
6. (c) F finishes second when D finishes third. Thus F finishes ahead of E. Therefore, option (c) is correct.
7. (c) In the event of C finishing first, G finishes last and we will nave the following three possible ordering of finishes.
CFDEG, CDEFG and CDFEG
8. (c) When F finishes ahead of D, then F will definitely finish at the second place.
9. (a) History is the compulsory subject of C.
10. (d) D is a female member in the group.
11. (d) The compulsory subject of F (Mathematics) is the optional subject of C.
12. (c) E has Physics and Mathematics as his two subjects.

For Q. No. 13-15

The following ordered arrangement of the cricket fans is derived from the given information.

13. (c) Clearly, J, is sitting in the middle.
14. (d) At one end, we have K and at the other end, we have N.
15. (b) Only statement (b) is true.

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