

General Content Guidelines & Syllabus for the BETA Test:

- a) For Quantitative Aptitude (QA) -- Grade 1 to Grade 10 Math -- CBSE & NCERT, India and California Curriculum
- b) For Verbal Ability (VA) -- Grade 1 to Grade 10 English -- CBSE & NCERT, India and California Curriculum
- c) For Data Interpretation & Logical Reasoning (DILR) -- No Syllabus Necessary -- DILR is an inherent skill.

Important Web Links:

www.cbseacademic.nic.in/term.html

www.cbseacademic.nic.in/curriculum_2021.html

<https://www.cde.ca.gov/be/st/ss/index.asp>

[**NOTE** - These are some BASIC Sample Questions - Questions in BETA Tests will be similar and within the Syllabus mentioned above BUT NOT NECESSARILY BE THE SAME as given in the Sample here]

Sample BETA Test Questions with Answers:

Logical Reasoning Questions

Q1. Look at this series: 12, 11, 13, 12, 14, 13, ... What number should come next?

- A. 10
- B. 16
- C. 13
- D. 15**

Q2. Look at this series: 36, 34, 30, 28, 24, ... What number should come next?

- A. 22**
- B. 26
- C. 23
- D. 20

Q3. Look at this series: 7, 10, 8, 11, 9, 12, ... What number should come next?

- A. 7
- B. 12
- C. 10**
- D. 13

Q4. Look at this series: 36, 34, 30, 28, 24, ... What number should come next?

- A.20
- B.22**
- C.23
- D.26

Q5. Which word does NOT belong with the others?

- A. index
- B. glossary
- C. chapter
- D. book**

Q.6 Which word does NOT belong with the others?

- A.tulip
- B.rose
- C.bud**
- D.daisy

Q7 Paw : Cat :: Hoof : ?

- A. Lamb
- B. Horse**
- C. Elephant
- D. Tiger

Q8. Safe : Secure :: Protect :

- A. Lock
- B. Guard**

- C. Sure
- D. Conserve

Q9. Cup is to coffee as bowl is to

- A.dish
- B.soup**
- C.spoon
- D.food

Q10. If a legislature decides to fund agricultural subsidy programs, national radio, and a small business loan program, what 2 other programs can they fund?

- A. harbor improvements and school music program
- B. harbor improvements and international airport**
- C. hurricane preparedness and international airport
- D. hurricane preparedness and school music program

Q. In each question below is given a statement followed by two assumptions numbered I and II. You have to consider the statement and the following assumptions and decide which of the assumptions is implicit in the statement.

11.

Statement: It is desirable to put the child in school at the age of 5 or so.

Assumptions:

- I. At that age the child reaches an appropriate level of development and is ready to learn.
- II. The schools do not admit children after six years of age.

- A. Only assumption I is implicit**
- B. Only assumption II is implicit
- C. Either I or II is implicit
- D. Neither I nor II is implicit

12.

Statement: "In order to bring punctuality in our office, we must provide conveyance allowance to our employees." - The person in charge of a company tells the Personnel Manager.

Assumptions:

- I. Conveyance allowance will not help in bringing punctuality.
- II. Discipline and reward should always go hand in hand.

- A. Only assumption I is implicit
- B. Only assumption II is implicit**
- C. Either I or II is implicit
- D. Neither I nor II is implicit
- E. Both I and II are implicit

13.

Statement: Unemployment allowance should be given to all unemployed Indian youth above 18 years of age.

Assumptions:

- I. There are unemployed youth in India who needs monetary support.
- II. The government has sufficient funds to provide allowance to all unemployed youth.

- A. Only assumption I is implicit**
- B. Only assumption II is implicit
- C. Either I or II is implicit
- D. Neither I nor II is implicit
- E. Both I and II are implicit

Q. In each question below are given two statements followed by two conclusions numbered I and II. You have to take the given two statements to be true even if they seem to be at variance from commonly known facts. Read the conclusion and then decide which of the given conclusions logically follows from the two given statements, disregarding commonly known facts.

14.

Statements: No women teacher can play. Some women teachers are athletes.

Conclusions:

- I. Male athletes can play.

II. Some athletes can play.

- A. Only conclusion I follows
- B. Only conclusion II follows
- C. Either I or II follows
- D. Neither I nor II follows**

15.

Statements: All mangoes are golden in colour. No golden-coloured things are cheap.

Conclusions:

- I. All mangoes are cheap.
- II. Golden-coloured mangoes are not cheap.

- A. Only conclusion I follows
- B. Only conclusion II follows**
- C. Either I or II follows
- D. Neither I nor II follows

Q16. SCD, TEF, UGH, _____, WKL

- A. CMN
- B. UJI
- C. VIJ**
- D. IJT

Q17. FAG, GAF, HAI, IAH, _____

- A. JAK**
- B. HAL
- C. HAK
- D. JAI

Q. Each question has an underlined word followed by four answer choices. You will choose the word that is a necessary part of the underlined word.

18.

harvest

- A. autumn
- B. stockpile
- C. tractor
- D. crop**

19.

book

- A. fiction
- B. pages**
- C. pictures
- D. learning

20

language

- A. tongue
- B. slang
- C. writing
- D. words**

21.

school

- A. student**
- B. report card
- C. test
- D. learning

Q22. Tanya is older than Eric.

Cliff is older than Tanya.

Eric is older than Cliff.

If the first two statements are true, the third statement is

- A. true
- B. false**
- C. uncertain

Q23. Blueberries cost more than strawberries.

Blueberries cost less than raspberries.

Raspberries cost more than strawberries and blueberries.

If the first two statements are true, the third statement is

- A. true**
- B. false
- C. uncertain

Q24. Mara runs faster than Gail.

Lily runs faster than Mara.

Gail runs faster than Lily.

If the first two statements are true, the third statement is

- A. true
- B. false**
- C. uncertain

Q. *Look carefully for the pattern, and then choose which pair of numbers comes next.*

25.

28 25 5 21 18 5 14

- A. 11 5**
- B. 10 7
- C. 11 8
- D. 5 10

8 11 21 15 18 21 22

- A. 25 18
- B. 25 21**
- C. 25 29
- D. 24 21

27

9 11 33 13 15 33 17

- A. 19 33**
- B. 33 35
- C. 33 19
- D. 15 33

Q. Find the number that fits somewhere into the middle of the series. Some of the items involve both numbers and letters

28

Look at this series: F2, __, D8, C16, B32, ... What number should fill the blank?

- A. A16
- B. G4
- C. E4**
- D. E3

29

Look at this series: 15, __, 27, 27, 39, 39, ... What number should fill the blank?

- A. 51
- B. 39
- C. 23
- D. 15**

30.

Look at this series: 72, 76, 73, 77, 74, __, 75, ... What number should fill the blank?

- A. 70

- B. 71
- C. 75
- D. 78**

Q. Every one of the following questions consists of a related pair of words, followed by four pairs of words. Choose the pair that best represents a similar relationship to the one expressed in the original pair of words.

31.

BINDING : BOOK

- A. criminal : gang
- B. display : museum
- C. artist : carpenter
- D. frame : picture**

32.

EXPLORE : DISCOVER

- A. read : skim
- B. research : learn**
- C. write : print
- D. think : relate

33.

PETAL : FLOWER

- A. salt : pepper
- B. tire : bicycle**
- C. base : ball
- D. sandals : shoes

Q34. From a certain point, Smriti walks 70 m towards the south. Then, she turns to her right & starts walking straight for another 70 m. Then, again turning to her left he walks for 60 m. She then turns to her left & walks for 70 m. How far is she from the starting point?

- 1. 120 m
- 2. 135 m

3. 140 m

4. **130 m**

Q35. In a certain code language, 'ANIMALS' is written as 'SLAMINA'. How is 'ONLINE' written in that code?

1. **ENILNO**

2. OLINEN

3. LNOINE

4. NNLOIE

Q36. Two number are in the ratio 3 : 5. If 9 is subtracted from each, the new numbers are in the ratio 12 : 23. The smaller number is:

A. 27

B. **33**

C. 49

D. 55

Q37. Two numbers are respectively 20% and 50% more than a third number. The ratio of the two numbers is:

A. 2 : 5

B. 3 : 5

C. **4 : 5**

D. 6 : 7

Q38. In a mixture 60 litres, the ratio of milk and water 2 : 1. If the this ratio is to be 1 : 2, then the quantity of water to be further added is:

A. 20 litres

B. 30 litres

C. 40 litres

D. **60 litres**

Q39. The average of 20 numbers is zero. Of them, at the most, how many may be greater than zero?

- A. 0
- B. 1
- C. 10
- D. 19**

Q40. A fruit seller had some apples. He sells 40% apples and still has 420 apples. Originally, he had:

- A. 588 apples
- B. 600 apples
- C. 672 apples
- D. 700 apples**

Q41. The cube root of .000216 is:

- A. .6
- B. .06**
- C. 77
- D. 87

Q42. 39 persons can repair a road in 12 days, working 5 hours a day. In how many days will 30 persons, working 6 hours a day, complete the work?

- A. 10
- B. 13**
- C. 14
- D. 15

Q43. What least number must be added to 1056, so that the sum is completely divisible by 23 ?

- A. 2**
- B. 3
- C. 18
- D. 21

Q44. What is the probability of getting a sum 9 from two throws of a dice?

- A. 1/6
- B. 1/8
- C. 1/9**
- D. 1/12

Q45. Which is more: 15 kilograms or 15 000 grams?

- A. 15 kilograms
- B. 15 000 grams
- C. they are the same**

Q46. Which one is more: 22 millimetres or 2 centimetres?

- A. comparing different units, no answer
- B. 22 millimetres**
- C. 2 centimetres

Q. *In each question below a sentence broken into five or six parts. Join these parts to make a meaningful sentence. The correct order of parts is the answer:*

Q47.

- 1. I
- 2. immediately
- 3. salary
- 4. my
- 5. want

- A. 43152
- B. 15432**
- C. 25143
- D. 42351

Q48

- 1. left
- 2. the
- 3. house
- 4. he

5. suddenly

A. 12435

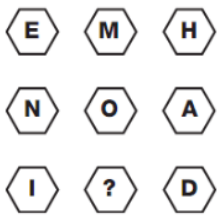
B. 21354

C. 45123

D. 52341

Q49

Which letter replaces the question mark?



A. M

B. J

C. C

D. W

Q.50

Which letter replaces the question mark?



A. Q

B. A

C. Z

D. K

Verbal Ability Questions

Q Fill in the blanks with the correct option.

1

This is a big house. ___ belongs to my uncle. (3rd)

1. She
2. **It**
3. He
4. They

Q Identify the subject in the following sentence:

2

The sun gives us light.

1. Light
2. **The sun**
3. Gives us
4. Gives us light

Q Fill in the blanks with the correct form of the verb:

3

The Jaipur Shatabdi Express _____ fate yesterday.

1. Is
2. **Has**
3. Were
4. Was

4

Mike _____ me on my birthday every year.

1. Congratulate
2. **Congratulates**
3. Congratulated
4. Congratulating

5

He _____ in the exam last year.

1. Fails
2. **Fail**

3. **Failed**

4. Failing

Q A definition or example is given, select the right option:

6

A game in which no one wins

1. **Draw**

2. Fix

3. Defeat

4. Victory

Q Identify adjective in the following sentence:

7

The fat boy has a stick in his hand.

1. **Fat**

2. Boy

3. Stick

4. Hand

8

The thirsty crow drawing the cold water.

1. Crow

2. Water

3. The

4. **Thirsty, cold**

Q Identify proper noun in the following sentence:

9

DPS is a famous school.

1. **DPS**
2. Famous
3. School
4. All of these

Q How many nouns have been used in the following sentence?

10

The Gita is a holy book of Hindus.

1. Two
2. Four
3. **Three**
4. One

Q Find the antonym of the words given in capital letters:

11

SOFT

1. Easy
2. **Hard**
3. Cozy
4. Comfy

12

PURCHASE

1. But
2. Asset
3. **Sell**
4. All of these

13

VIXEN

1. Dog
- 2. Fox**
3. Lion
4. Horse

Q. Identify adverb in the following sentence:

14

The old man walks slowly.

1. Old
2. Walks
3. Man
- 4. Slowly**

Q Fill in the blanks with correct article:

15

___ flower he gave her was very beautiful.

1. A
- 2. The**
3. An
4. All of these

16

Milan is ___ Italian City.

1. The
- 2. An**
3. A
4. All of these

17

The Virat is ___ aircraft carrier.

1. A
2. The
- 3. An**
4. All of these

18

He went to_____university of Japan.

1. An
2. A
- 3. The**
4. All of these

Q Find the synonym of the words given in the capital letters:

19

JOIN

1. Loosen
- 2. Unite**
3. Remove
4. Detach

20

CHEERLESS

1. Unhappy
2. Sad
3. Depressed
- 4. All of these**

Q Arrange P,Q,R and S to make a meaningful sentence:

21.

P: Martin/ Q: of his parents/ R: is the/ S: only child

1. PQRS

2. **PRSQ**
3. QPSR
4. SRPQ

22.

P: quiz competition/ Q: last year/ R: first in/ S: he stood

1. PQRS
2. SQRP
3. **SRPQ**
4. SPQR

Q.Fill in the blanks with correct prepositions:

23.

He is worried_____his health.

1. To
2. For
3. From
4. **About**

24.

Fill the glass___water.

1. From
2. **With**
3. To
4. By

Q Fill in the blanks with correct conjunctions:

25.

Dev_____ Mike are bosom friends.

1. But

2. **And**

3. Or

4. As

26.

Respect others ____ you want to get respect.

1. **If**

2. As

3. Or

4. Than

Q Fill in the blank possessive form of the word given in bracket.

27

_____ husband is a reputed doctor. (Sania)

1. Sania

2. **Sania's**

3. Sania'se

4. All of these

Q Identify the type of tense for the following sentence:

28

We all love our country.

1. **Present indefinite**

2. Present perfect

3. Past indefinite

4. Present continuous

Q Identify the odd one out

29.

1. Cauliflower

2. Potato
- 3. Rose**
4. Cabbage

30

1. Car
2. Lorry
- 3. Bicycle**
4. Bus

Q A grammatically incorrect sentence is given in the question. Find the part of sentence which is incorrect:

31

She gone to the movie last night.

1. She
- 2. Gone to**
3. The movie
4. Last night

32

The sun _____ in the East and _____ in the West.

1. Set, rises
2. Rises, set
3. Rise, sets
- 4. Rises, sets**

33

Which one of the following is an abstract noun?

1. Soldier
- 2. Honesty**
3. Classroom
4. Tuesday

Q Fill in the blank with appropriate collective noun.

34

A ____ of bees was seen in the garden.

1. **Swarm**
2. Flock
3. Group
4. Pack

Comprehension

Harry, who is a professional, had a fearful dream. He found himself in a land where he saw some slug-like animals with tentacles living on human bodies. The people tolerated these creatures because after many years they would grow into bulls which then would be used for transportation. Harry noticed that he himself was covered with these creatures and he woke up screaming.

35

In the dream, Harry found the creatures

1. in his office
2. **in a different land**
3. in his kitchen
4. in a different planet

36

What did the creatures look like?

1. slug-like animals with horns
2. insects with wings
3. insects with tentacles
4. **slug-like animals with tentacles**

37

Harry's dream was fearful because

1. It brought him face to face with elephants
2. He found himself on a land full of snakes
3. He forgets the way home
4. **He saw creatures feeding on human bodies**

38

The creatures will grow into bulls which then will be used for

1. digging
2. hunting
3. **transportation**
4. flying

39

Harry woke up

1. dancing
2. **screaming**
3. thinking
4. singing

Q. Laws of nature are not commands but statements of acts. The use of the word "law" in this context is rather unfortunate. It would be better to speak of uniformities in nature. This would do away with the elementary fallacy that a law implies a law giver. If a piece of matter does not obey a law of nature it is punished. On the contrary, we say that the law has been incorrectly stated.

40

If a piece of matter violates nature's law, it is not punished because

1. it is not binding to obey it
2. **there is no superior being to enforce the law of nature**
3. it cannot be punished
4. it simply means that the facts have not been correctly stated by law

41.

Laws of nature differ from man-made laws because

1. **the former state facts of nature**
2. they must be obeyed
3. they are natural
4. unlike human laws, they are systematic

42

The laws of nature based on observation are

1. conclusion about the nature of the universe.
2. true and unfalsifiable.
3. figments of the observer imagination.
4. **subject to change in the light of new facts.**

43

The author is not happy with the word 'law' because

1. **it connotes rigidity and harshness**
2. it implies an agency which has made them
3. it does not convey the sense of nature's uniformity
4. it gives rise to false beliefs

One Word Substitutes

44) A person who travels on foot.

1. **pedestrian**
2. traveler
3. walker
4. health conscious

45) An extremely old person that behaves like a fool

1. Imbecility
2. Senility
3. **Dotage**
4. Unconscious

46) The study of ancient sciences

1. **Archaeology**
2. Anthropology
3. Histology
4. Ethnology

47) The points to be discussed at a meeting

1. Schedule
2. **Agenda**
3. Strategy
4. Plan

48) Something that has no beginning or end and exists forever

1. **Eternal**
2. Indefinite
3. Limitless
4. Infinity

49) Rain falls from the cloud.

1. past continuous
2. future continuous
3. **simple present**
4. present continuous

50) The train had left.

1. **past perfect**
2. past continuous
3. past future
4. simple present

Quantitative Aptitude Questions

Q1.

Consider the statements.

Statement A: $3x + 5$ is an example of algebraic expression because equality (=) sign is missing in it and it consists of variable, numbers, and operations.

Statement B: $2x - 6 = 11$ is an example of algebraic equation because it is an equality involving variables and has an equality sign.

Which of these statement(s) is/are correct?

[Grade 8 Mathematics]

Option 1: Only Statement A

Option 2: Only Statement B

Option 3: Both Statement A and Statement B

Option 4: Neither Statement A nor Statement B

Q2 .

Identify the variable(s) and the highest power of the variable in a given algebraic equation in order to distinguish whether it is a linear equation in one variable or not:

1. Which of these equations is a linear equation in one variable?

[Grade 8 Mathematics]

Option 1: $2x + 5 = 14x$

Option 2: $2x + 5x = 14$

Option 3: $2x^2 + 5 = 4$

Option 4: $2/x + 3x = 0$

Q3.

Substitute the given values of variable in order to verify whether it is the solution of the equation or not:

1. Which of these is a solution of the equation $2(x - 9) = -14$?

[Grade 8 Mathematics]

Option 1: $x = 0$

Option 2: $x = 1$

Option 3: $x = 2$

Option 4: $x = 3$

SQUARE AND SQUARE ROOTS

Q1.

Which of these is a non-perfect square number?

[Grade 8 Mathematics]

Option 1: 25

Option 2: 49

Option 3: 81

Option 4: 90

Q2

The length and breadth of a rectangular field are 80 m and 39 m respectively. What is the length of the diagonal of the field, by using the long division method?

[Grade 8 Mathematics]

Option 1: 11 m

Option 2: 55 m

Option 3: 89 m

Option 4: 97 m

Q3.

The diagonals of a rhombus are 6.6 m and 11.2 m. What is the side length of the rhombus?

[Grade 8 Mathematics]

Option 1: 2.9 m

Option 2: 4.3 cm

Option 3: 6.5 m

Option 4: 8.9 m

CUBES AND CUBE ROOTS

Q1.

Is 343 a perfect cube?

[Grade 8 Mathematics]

Option 1: Yes, because 3 is in one's place.

Option 2: No, because it is an odd number.

Option 3: No, because the sum of the digits is not a perfect cube.

Option 4: Yes, because all its prime factors can be grouped in triples.

COMPARING QUANTITIES

Q1.

Convert ratios to percentage in order to solve the given questions:

Which percentage is equivalent to $\frac{18}{25}$?

[Grade 8 Mathematics]

Option 1: 18%

Option 2: 36%

Option 3: 72%

Option 4: 78%

INTEGERS

Q1

Which among the following numbers are integers? 12, -6, 0, -8, 10, -1

[Grade 7 Mathematics]

Option 1: all of the numbers are integers

Option 2: all of the numbers except 0 are integers

Option 3: only the numbers 12 and 10 are integers

Option 4: only the numbers 0, 10 and 12 are integers

Q2.

The numbers below are to be arranged on a number line. 0, 5, -18, 20, -30, -12, 2

Which option lists the numbers in the order they should be arranged from left to right on a number line?

[Grade 7 Mathematics]

Option 1: -30, -18, -12, 0, 2, 5, 20

Option 2: 0, -12, -18, -30, 2, 5, 20

Option 3: 0, 2, 5, -12, -18, 20, -30

Option 4: 0, -30, -18, -12, 2, 5, 20

Q3.

What is the value of $-4(-200+125)$?

[Grade 7 Mathematics]

Option 1: -1300

Option 2: -300

Option 3: 300

Option 4: 1300

FRACTIONS AND DECIMALS

Q1

Which fraction is equivalent to $55/121$?

[Grade 7 Mathematics]

Option 1: $11/121$

Option 2: $110/121$

Option 3: $121/55$

Option 4: $5/11$

Q2

Which comparison of the fractions $11/24$ and $5/6$ is correct?

[Grade 7 Mathematics]

Option 1: $11/24 = 5/6$

Option 2 : $11/24 < 5/6$

Option 3: $11/24 > 5/6$

Option 4: The fractions cannot be compared.

Q3

Consider the following methods to find the value of $3/27 \times 3$.

Method I: $\frac{3}{27} + \frac{3}{27} + \frac{3}{27}$

Method II: $3 \times 3 / 27 \times 3$

Which method is correct?

[Grade 7 Mathematics]

Option 1: only method I

Option 2: only method II

Option 3: Both the methods

Option 4: Neither of the methods

DATA HANDLING

Q1.

As part of class project, Rekha needs to find the average age of her family members. Rekha writes her family member's age as follows

32, 30, 23, 19, 15

Which of these is the average age of members in Rekha's family?

[Grade 7 Mathematics]

Option 1: 15

Option 2: 17

Option 3: 23

Option 4: 32

Q2.

The data below shows the number of balls a batsman played in the past 6 innings he played.

18, 36, 6, 12, 18, 30

What is the mean number of balls the batsman faced in an inning?

[Grade 7 Mathematics]

Option 1: 36

Option 2: 21

Option 3: 126

Option 4: 15

Q3.

The data below represents the average daily temperature, in °C, of a city in the first week of April. 29 35 33 40 30 38 32

What is the range of the average daily temperature of the city in the first week of April?

[Grade 7 Mathematics]

Option 1: 11°C

Option 2: 40°C

Option 3: 29°C

Option 4: 33°C

SIMPLE EQUATION

Q1.

Which option shows to correct way to solve the equation $2k - 5 = 9$?

[Grade 7 Mathematics]

Option 1: Add 5 to both the sides and then divide both the sides by 2.

Option 2: Subtract 5 from both the sides and then divide both the sides by 2.

Option 3: Add 5 to both the sides and then multiply both the sides by 2.

Option 4: Subtract 5 from both the sides and then multiply both the sides by 2.

Q2

Which of the following equations can be formed using the solution $t = -3$?

[Grade 7 Mathematics]

Option 1: $-2t = -6$

Option 2: $t - 4 = -1$

Option 3: $t/4 = -0.75$

Option 4: $5 - t = 2$

Q3

Arpita bought 10 pens from a shop and gave a Rs. 100 note to the shopkeeper. The shopkeeper returned Rs. 40 to her. If the cost of each pen is the same, what is the cost of each pen?

[Grade 7 Mathematics]

Option 1: Rs. 4

Option 2: Rs. 6

Option 3: Rs. 10

Option 4: Rs. 14

LINES AND ANGLES

Q1

Which of the following statements is true?

[Grade 7 Mathematics]

Option 1: A pair of complementary angles can have two right angles.

Option 2: A pair of complementary angles can have two obtuse angles.

Option 3: A pair of complementary angles can have two acute angles.

Option 4: A pair of complementary angles can have one acute and one obtuse angle

Q2

Which of the following shows a pair of supplementary angles?

[Grade 7 Mathematics]

Option 1: 38° and 52°

Option 2: 69° and 81°

Option 3: 84° and 96°

Option 4: 173° and 187°

Q3

Consider two statements shown.

Statement I: Two right angles can be supplementary.

Statement II: An obtuse and an acute angle can be supplementary.

Which of these statement(s) is/are correct?

[Grade 7 Mathematics]

Option 1: Only statement I

Option 2: Only statement II

Option 3: Both statements I and II

Option 4: Neither statement I nor statement II

TRIANGLE AND ITS PROPERTIES

Q1

Two triangles are joined to form a rectangle. How many side(s) in each triangle is/are also the altitude(s)?

[Grade 7 Mathematics]

Option 1: no side

Option 2: 1

Option 3: 2

Option 4: 3

Q2.

For the lengths 8.3 cm, 3.5 cm and 5.6 cm to be the sides of a triangle, which of these conditions should be true?

[Grade 7 Mathematics]

Option 1: $5.6 + 3.5 < 8.3$

Option 2: $8.3 - 3.5 > 5.6$

Option 3: $8.3 - 5.6 < 3.5$

Option 4: $8.3 + 5.6 > 8.3 + 3.5$

Q3

Apply the Pythagoras property in order to verify whether the triangle for the given side lengths will be right angled triangle or not.

Which of the following side lengths will form a right-angled triangle?

[Grade 7 Mathematics]

Option 1: 6 cm, 9 cm and 15 cm

Option 2: 5 cm, 12 cm and 17 cm

Option 3: 8 cm, 15 cm and 17 cm

Option 4: 4 cm, 6 cm, 20 cm

COMPARING QUANTITIES

Q1

There are 16 red marbles and 24 green marbles in a bag. Which option represents the ratio of red

marbles to green marbles?

[Grade 7 Mathematics]

Option 1: 2: 3

Option 2: 3: 2

Option 3: 2: 5

Option 4: 3: 5

Q2

What is the ratio of 5 metres to 200 centimetres?

[Grade 7 Mathematics]

Option 1: 5: 2

Option 2: 2: 5

Option 3: 1: 40

Option 4: 40: 1

Q3

Which of the following set of ratios are in proportion?

[Grade 7 Mathematics]

Option 1: 16: 24 and 26: 39

Option 2: 24: 51 and 16: 51

Option 3: 33: 18 and 44: 15

Option 4: 42: 17 and 28: 34

RATIONAL NUMBER

Q1

Consider the statements:

Statement 1: All natural numbers are rational numbers.

Statement 2: All whole numbers are rational numbers.

Statement 3: All integers are rational numbers.

Which of these statements is/are correct?

[Grade 7 Mathematics]

Option 1: All three statements

Option 2: Neither of the statements

Option 3: Only Statement 1 and Statement 2

Option 4: Only Statement 2 and Statement 3

Q2

Which of these rational numbers lies midway between $\frac{3}{8}$ and $\frac{5}{8}$?

[Grade 7 Mathematics]

Option 1: $\frac{1}{2}$

Option 2: $\frac{1}{4}$

Option 3: $\frac{4}{3}$

Option 4: $\frac{7}{16}$

Q3

Which of the following is the standard form of $-\frac{42}{56}$?

[Grade 7 Mathematics]

Option 1: $-\frac{3}{4}$

Option 2: $\frac{3}{4}$

Option 3: $-\frac{6}{8}$

Option 4: $\frac{6}{8}$

PERIMETER & AREA

Q1

The radius of a circle is r cm. If the radius becomes thrice, how will the circumference of the circle change?

[Grade 7 Mathematics]

Option 1: The circumference will become thrice.

Option 2: The circumference will become six times.

Option 3: The circumference will become one-third.

Option 4: The circumference will become one-sixth.

Q2

Which of these statements is correct?

[Grade 7 Mathematics]

Option 1: The circumference of a circle is always twice its diameter.

Option 2: The circumference of a circle is always three times its diameter.

Option 3: The circumference of a circle is always more than twice its diameter.

Option 4: The circumference of a circle is always more than three times its diameter.

Q3

The area of a rectangle is 60 mm^2 . What is the area of the rectangle in cm^2 ?

[Grade 7 Mathematics]

Option 1: 0.06 cm^2

Option 2: 0.6 cm^2

Option 3: 6 cm^2

Option 4: 6000 cm^2

ALGEBRAIC EXPRESSION

Q1

Which of these expressions can be formed from the given statement? "Three times the cube of z is subtracted from two times z "

[Grade 7 Mathematics]

Option 1: $2 + z - 3 - z^3$

Option 2: $2z - 3z^3$

Option 3: $3z^3 + 2z$

Option 4: $3z^3 - 2z$

Q2

Which of the following options represents the terms of the expression $4mn + 5m - 3n - 2$?

[Grade 7 Mathematics]

Option 1: -2

Option 2: $5m, -3n$ and -2

Option 3: $4mn$, $5m$ and $-3n$

Option 4: $4mn$, $5m$, $-3n$ and -2

Q3

What is the numerical coefficient of the term containing q^2 in the expression $3p^2 - 6pq^2 + 5pq$?

[Grade 7 Mathematics]

Option 1: 6

Option 2: 5

Option 3: 3

Option 4: -6

EXPONENTS AND POWERS

Q1

The exponential form of $p \times q \times p \times q \times p \times p \times p \times q \times q$ is ____.

[Grade 7 Mathematics]

Option 1: $p^5 \times q^4$

Option 2: $p^4 \times q^5$

Option 3: $p^5 \times q^5$

Option 4: $p^6 \times q^4$

Q2

Which of these numbers are arranged in the correct order?

[Grade 7 Mathematics]

Option 1: $2^7 < 15^2 < 3^5 < 4^4$

Option 2: $2^7 < 3^5 < 4^4 < 15^2$

Option 3: $15^2 < 4^4 < 3^5 < 2^7$

Option 4: $2^7 < 3^5 < 15^2 < 4^4$

Q3

The prime factors of 12800 can be expressed as ____.

[Grade 7 Mathematics]

Option 1: $2^7 \times 5^2$

Option 2: $2^9 \times 5^2$

Option 3: $2^7 \times 3 \times 5^2$

Option 4: $2^{10} \times 5^2$

KNOWING YOUR NUMBER

Q1

Anamika is forming 5-digit numbers using all the digits of the number 74064 without repetition. What is the smallest number that she can form keeping the same digits at consecutive places?

[Grade 6 Mathematics]

Option 1: 04467

Option 2: 40467

Option 3: 44067

Option 4: 76440

Q2

Which option correctly represents the expanded form of 67,043?

[Grade 6 Mathematics]

Option 1: $6 \times 100000 + 7 \times 10000 + 4 \times 100 + 3 \times 10$

Option 2: $6 \times 100000 + 7 \times 10000 + 4 \times 100 + 3 \times 0$

Option 3: $6 \times 10000 + 7 \times 1000 + 4 \times 10 + 3$

Option 4: $6 \times 10000 + 7 \times 1000 + 4 \times 10 + 3 \times 0$

Q3

What is the place value of the digit 6 in the numeral 54968732?

[Grade 6 Mathematics]

Option 1: 6

Option 2: 6000

Option 3: 60000

Option 4: 600000

WHOLE NUMBER

Q1

Which of these expressions represents the least whole number?

[Grade 6 Mathematics]

Option 1: $1 + 0$

Option 2: $0 - 1$

Option 3: 10×1

Option 4: $12 - 12$

Q2

How many dots can be arranged such that there should be the same number of dots in each row and column?

[Grade 6 Mathematics]

Option 1: 12

Option 2: 15

Option 3: 16

Option 4: 20

Q3

Aryan plotted whole numbers 0 to 7 on a number line. How many unit distances did he draw?

[Grade 6 Mathematics]

Option 1: 0

Option 2: 1

Option 3: 7

Option 4: 8

PLAYING WITH NUMBERS

Q1

The numbers which exactly divide 75 and 45 are _.

[Grade 6 Mathematics]

Option 1: 3, 5 and 15

Option 2: 15 and 25

Option 3: 3, 15 and 25

Option 4: 9 and 15

Q2

Nisha has 28 inches long red ribbon and 36 inches long green ribbon. For a craft project, she needs both colored ribbon pieces of equal lengths. What is the greatest length she can have for each piece assuming that all ribbon is used?

[Grade 6 Mathematics]

Option 1: 4 inches

Option 2: 64 inches

Option 3: 8 inches

Option 4: 252inches

Q3

Jagat has a jar of different coloured marbles. He is using them to make packs of marbles such that each pack has 12 red, 15 blue and 9 green marbles. After making packs, there are no marbles left in the jar.

What is the least possible number of marbles that could be in the jar at the beginning?

[Grade 6 Mathematics]

Option 1: 12

Option 2: 180

Option 3: 360

Option 4: 3

BASIC GEOMETRICAL IDEAS

Q1

A point determines the_ on a map.

[Grade 6 Mathematics]

Option 1: location of a place

Option 2: distance between two places

Option 3: direction

Option 4: roads

Q2

What is the minimum number of sides a polygon can have?

[Grade 6 Mathematics]

Option 1: 1

Option 2: 2

Option 3: 3

Option 4: 4

Q3

Which of these can be represented by a line?

[Grade 6 Mathematics]

Option 1: Window blinds

Option 2: Roads

Option 3: Ruler

Option 4: Spacebar on keyboard

INTEGERS

Q1

Which set shows all numbers less than 0?

[Grade 6 Mathematics]

Option 1: 12, 23, 37

Option 2: -15, 0, 15

Option 3: -28, -9, 0

Option 4: -54, -43, -39

Q2

What is the result obtained on subtracting 98 from the sum of -126 and 154?

[Grade 6 Mathematics]

Option 1: 126

Option 2: 70

Option 3: -70

Option 4: -126

Q3

Given that m is a positive integer and n is a negative integer. Which of these statements is correct?

[Grade 6 Mathematics]

Option 1: The predecessor of m will be always greater than the successor of n.

Option 2: The predecessor of m will be always less than the successor of n.

Option 3: The predecessor of m and successor of n can never be equal.

Option 4: The predecessor of m and successor of n can be equal.

FRACTIONS

Q1

Ajay wants to represent a fraction $\frac{3}{5}$ in a rectangular model. What is the minimum number of equal parts he needs to divide the rectangular model into?

[Grade 6 Mathematics]

Option 1: 2

Option 2: 3

Option 3: 5

Option 4: 8

Q2

If $\frac{m}{4}$ is a proper fraction, which option shows the possible values of m?

[Grade 6 Mathematics]

Option 1: 1, 2 and 3

Option 2: 1, 2, 3 and 4

Option 3: 5, 6 and 7

Option 4: 4, 5, 6 and 7

Q3

If $\frac{3}{t}$ and $\frac{51}{119}$ are equivalent fractions, what is the value of t?

[Grade 6 Mathematics]

Option 1: 3

Option 2: 7

Option 3: 8

Option 4: 17

DECIMAL

Q1

Which is the correct way to represent the amount “8 rupees and 3 paise”?

[Grade 6 Mathematics]

Option 1: 3.08

Option 2: 3.80

Option 3: 8.03

Option 4: 8.30

Q2

Which of the following decimal numbers is the smallest?

[Grade 6 Mathematics]

Option 1: 25.81

Option 2: 25.18

Option 3: 25.87

Option 4: 25.78

Q3

Consider the following claims.

Claim 1: 190 paise can be expressed as 1.90 rupees.

Claim 2: 1562 cm can be expressed as 15.62 m.

Which of the claim(s) is/are correct?

[Grade 6 Mathematics]

Option 1: Only Claim 1

Option 2: Only Claim 2

Option 3: Both Claim 1 and Claim 2

Option 4: Neither Claim 1 nor Claim 2

DATA HANDLING

Q1

A teacher wants to know the favourite ice-cream flavor of his students. How should the teacher record the data to know the number of students whose favourite flavour is chocolate?

[Grade 6 Mathematics]

Option 1: List of students and their choice of flavour written against each name.

Option 2: Writing the number of students who prefer each flavour.

Option 3: List of students whose favourite flavour is chocolate.

Option 4: Writing the flavours preferred one by one.

Q2

A bakery owner wants to record the sale of four items over the past hour. The owner thinks of two ways to record the data as shown.

Method I: Recording the number of each item sold.

Method II: Taking 4 jars and putting a coin for each item sold.

Which of these method(s) is correct?

[Grade 6 Mathematics]

Option 1: Only method I

Option 2: Only method II

Option 3: Both method I and method II

Option 4: Neither method I nor method II

MENSURATION

Q1

Aditi wants to put decorative tape around the borders of a rectangular cardboard which is 50 cm long and 45 cm wide.

Which of these expressions represents the length of tape, in cm, required to cover its borders?

[Grade 6 Mathematics]

Option 1: (50×45)

Option 2: $(50 + 45)$

Option 3: $2(50 \times 45)$

Option 4: $2(50 + 45)$

Q2

Arjun wants to fence his square backyard of side length 11 m using rope. He makes 3 complete rounds using the rope to fence. What is the total length of rope used?

[Grade 6 Mathematics]

Option 1: 44 m

Option 2: 66 m

Option 3: 132 m

Option 4: 363 m

Q3

A wire of length 56 cm is made into the shape of a heptagon. What is the side length of the heptagon?

[Grade 6 Mathematics]

Option 1: 7 cm

Option 2: 8 cm

Option 3: 14 cm

Option 4: 49 cm

ALGEBRA

Q1

Kartik is packing juice packs in cartons such that each carton has 40 juice packs. After packing j cartons, he is left with 25 juice packs. Which of these expressions represents the total number of juice packs?

[Grade 6 Mathematics]

Option 1: $40j + 25$

Option 2: $40j - 25$

Option 3: $25j + 40$

Option 4: $25j - 40$

Q2

The side length of an equilateral triangle is x metres. Which of the following option represents the perimeter of the triangle?

[Grade 6 Mathematics]

Option 1: $3 + x$ metres

Option 2: $3 \times x$ metres

Option 3: $3 - x$ metres

Option 4: $3/x$ metres

Q3

Anjali thinks of a number z . She multiplies the number by -9 and subtracts it from 14. Which of these algebraic expressions she could have formed?

[Grade 6 Mathematics]

Option 1: $14 - 9z$

Option 2: $-9z - 14$

Option 3: $14 + 9z$

Option 4: $-9z + 14$

RATIO AND PROPORTION

Q1

Rajat bought 750g of onions and 1.5 kg of tomatoes. Which option correctly compares the quantities of vegetables Rajat bought?

[Grade 6 Mathematics]

Option 1: Tomatoes were twice the quantity of onions

Option 2: There was equal quantity of tomatoes and onions

Option 3: Onions were twice the quantity of tomatoes

Option 4: Tomatoes were three times the quantity of onions

Q2

The ratio 16 is to 44 is the same as $_$.

[Grade 6 Mathematics]

Option 1: 2 is to 11

Option 2: 1 is to 2

Option 3: 4 is to 11

Option 4: 11 is to 4

Q3

In which order should the numbers 6, 12, 18 and 36 be placed such that they are in proportion?

[Grade 6 Mathematics]

Option 1: $36:12:: 6:18$

Option 2: 36:18:: 6:12

Option 3: 18:12:: 36:6

Option 4: 18:36:: 6:12

Q1. One fourth of the population of a newly discovered planet have 4legs. The rest have 2 legs. There are 60 legs total. How big is the population of the newly discovered planet?

Option 1: 25

Option 2: 24

Option 3: 26

Option 4: 23

Q2. A 25ft ladder (assume it is not an extension ladder) is placed with its foot 7ft away from a building. If the top of the ladder slips down 4ft, for how many feet will the bottom slide out?

Option 1: 8ft

Option 2: 5ft

Option 3: 6ft

Option 4: 7ft