01   Which is the longest rectangle ?

(A) | Area = 24 cm^2 | } 2 cm

(B) | Area = 48 cm^2 | } 6 cm

(C) | Area = 100 cm^2 | } 8 cm

(D) | Area = 60 cm^2 | } 8 cm

02   If $x : y = 3 : 5$ and $y : z = 5 : 7$, then identify the equivalent ratio of $(y - x) : (x + z)$.

(A) 2 : 23   (B) 1 : 5

(C) 1 : 6   (D) 15 : 46

03   What is the value of the expression

$$\left(\frac{1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8 \times 9}{1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9} \right)?$$
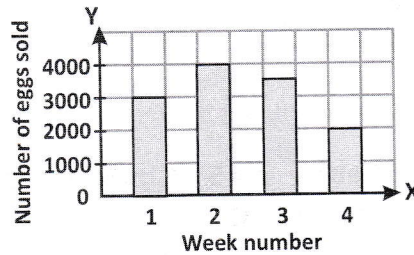
(A) 40320   (B) 8064

(C) 403200   (D) 72576

Space for rough work
---

04 Choose the greatest number which will divide 4059, 4182 and 4223.

(A) 43   (B) 41

(C) 45   (D) 47

05 The given bar chart shows the number of eggs sold by a farmer in different weeks.

Choose the true option.

(A) 4000 eggs were sold in week 3.

(B) 1000 eggs more were sold in week 3 than in week 1.

(C) The eggs sold in week 2 is twice as many eggs sold in week 4.

(D) The total number of eggs sold in all the 4 weeks is 12000.

(Space for rough work)

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06 What is the value of

$(1 + 3 + 5 \ldots\ldots + 2021 + 2023 - 2 - 4 - 6 \ldots\ldots - 2020 - 2022)$?

(A) −1010

(B) 1011

(C) −1011

(D) 1012

07 Square A has an area of 64 cm². The area of square B is 4 times the area of square A. Choose the perimeter of the square B.

(A) 36 cm

(B) 48 cm

(C) 64 cm

(D) 80 cm

08 Choose the result of $[(-145) + 79 + (-265) + (-41) + 2 + 1056 + (-798) + (-38) + 44 + (-1)]$.

(A) − 107

(B) − 104

(C) − 105

(D) − 106

09 What is the result of

$$\left[\left(\frac{2}{3} \times \frac{4}{5} - \frac{5}{6} \times \frac{7}{8} - \frac{9}{10} \times \frac{11}{12} + \frac{13}{14} \times \frac{15}{16}\right)\left(\frac{24}{7} \times \frac{14}{8} - \frac{9}{8} \times \frac{16}{3}\right)\right]?$$

(A) $\dfrac{-5}{6}$

(B) $\dfrac{-8}{9}$

(C) $\dfrac{8}{9}$

(D) Zero

───── Space for rough work ─────

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10 What is the common end point of the two rays of an angle called ?

(A) Vertex

(B) Initial point

(C) End point

(D) Final point

11 Which pyramid has all the faces as triangle ?

(A) Rectangular pyramid

(B) Square pyramid

(C) Triangular pyramid

(D) Triangular prism

12 If $x - 4 = -10$, then what is x ?

(A) 6
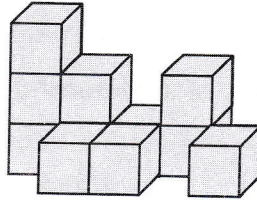
(B) −6

(C) −4

(D) zero

13 Choose the result of

$$\left(\frac{123 \times 123 - 2 \times 123 \times 32 + 32 \times 32}{231 \times 231 - 2 \times 231 \times 218 + 218 \times 218} \right)$$
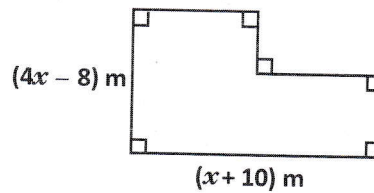
(A) 47

(B) 36

(C) 49

(D) 56

Space for rough work

14 The given figure is a solid consisting of identical cubes. What is the least number of cubes that can be added to the solid to form a cuboid ?

(A) 20   (B) 19   (C) 21   (D) 18

15 The given figure shows the outline of a plot of land.

$(4x - 8)$ m

$(x + 10)$ m

The cost of fencing is ₹ 14 per metre. If $x = 5$, find the total cost of fencing to the plot of land.

(A) ₹ 837

(B) ₹ 378

(C) ₹ 245

(D) ₹ 756

Space for rough work
---

16 If x is the number of primes less than 50, then _____ is the number of primes less than 60.

(A) $x + 1$

(B) $x + 2$

(C) $x + 3$

(D) $x + 4$

17 How many lines of symmetry does a scalene triangle have ?

(A) 0

(B) 1

(C) 2

(D) 3

18 Which option is the product of

$$\left(2 - \frac{1}{3}\right)\left(2 - \frac{3}{5}\right)\left(2 - \frac{5}{7}\right)\ldots\left(2 - \frac{2021}{2023}\right) ?$$

(A) $\dfrac{2025}{3}$

(B) $\dfrac{2027}{2023}$

(C) $\dfrac{5}{3}$

(D) Cannot be determined

19 If $\left(999\frac{1}{7} + 999\frac{2}{7} + 999\frac{3}{7} + 999\frac{4}{7} + 999\frac{5}{7} + 999\frac{6}{7}\right) = x,$

then choose value of x .

(A) 2997

(B) 5979

(C) 5994

(D) 5997

Space for rough work

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20 If M is a prime number such that (M+1) is also prime number. What number does M(M − 1) + 2 represents ?

(A) A prime number

(B) Neither prime or nor composite number

(C) Neither postivie nor negative

(D) Least composite number

21 Devi buys 4 times as many pencils as Shilpa. If 30 pencils remained in the shop, which expression shows the total number of pencils before the girls bought ?

(A) 5p + 30   (B) p + 30

(C) 4p + 30   (D) 5p − 30

22 The pictograph shows the number of beads of different colours in a box. The number of yellow beads is not shown.
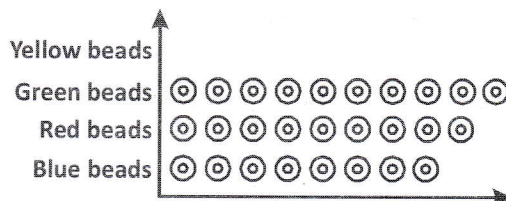
Key : Each ◎ represents 15 beads.

Altogether there are 510 beads in the box. How many ◎ must be drawn in the pictograph to represent the yellow beads ?

(A) 5   (B) 6

(C) 7   (D) 8

Space for rough work

23 Which of the following fraction is the largest ?

(A) $\dfrac{29}{30}$ (B) $\dfrac{29}{23}$ (C) $\dfrac{29}{27}$ (D) $\dfrac{29}{25}$

24 Identify the correct order among the options.

(A) 0.09 > 0.909 > 0.99 > 9.009 > 1.11 > 10.101

(B) 9.009 > 10.101 > 1.11 > 0.99 > 0.09 > 0.909

(C) 1.11 > 10.101 > 9.009 > 0.909 > 0.99 > 0.09
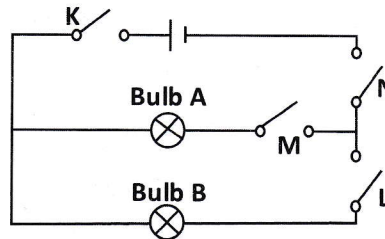
(D) 10.101 > 9.009 > 1.11 > 0.99 > 0.909 > 0.09

25 Choose the option which is divisible by 12.

(A) 123456789976612

(B) 123456789987512

(C) 123456789977612

(D) 123456789987612
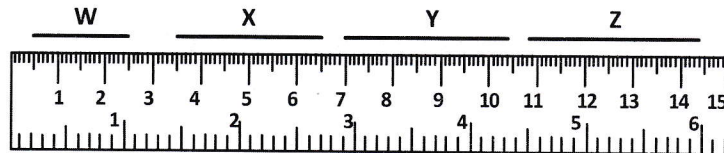
(Space for rough work)

26 Study the electric circuit shown below.

Which switches need to be closed so that only Bulb A will light up ?

(A) K, L and N   (B) K, M and N

(C) L and N   (D) K and N

27 Four pieces of wooden sticks W, X, Y and Z are placed along the length of a 30 cm long scale as shown below.

Which one of them is 3.4 cm in length ?

(A) Z   (B) X

(C) Y   (D) W

Space for rough work

28 A student has three materials P, Q and R. When she tries to see through material P she could see everything faintly while through material Q, she cannot see anything and through material R, she can see everything clearly. Materials P, Q and R respectively are

(A) transparent, translucent, opaque.

(B) opaque, translucent, transparent.

(C) translucent, opaque, transparent.

(D) opaque, transparent, translucent.

29 Read the statements given below.

I.	A fuse is used to complete or break an electric circuit.
II.	Current in a cell flows from positive terminal to negative terminal.
III.	A circuit is said to be open if current flows through it.
IV.	A filament is a part of bulb which glows when current passes through it.

Which of the given statements are true ?

(A) I, II and IV only   (B) II, III and IV only

(C) I and IV only   (D) II and IV only

── Space for rough work ──

30 Read the statements given below.

> I. Metric system is a standard unit of measurement and it was given by the French scientists.
> II. International System of measurement is abbreviated as SI.
> III. Convenient unit for measuring distance between Delhi and Mumbai is metre.

Which of the above statements is/are incorrect ?

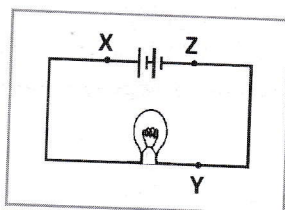(A) I only

(B) III only

(C) II and III only

(D) I and II only

31 The shadow of an object in an open field

(A) points in different directions and times of the day.

(B) becomes shorter from morning to noon.

(C) becomes longer from noon to late afternoon.

(D) all the three

Space for rough work

32 The figure given below shows an electric circuit made up of a battery and a bulb.

Which of the following is the correct sequence of the directions of current at X, Y and Z ?

	X	Y	Z
(A)	↑	↓	↑
(B)	↓	↑	↓
(C)	→	←	→
(D)	←	→	←

33 Identify an example of a motion of an object that moves in one position about its axis.

(A) The swinging pendulum of a wall clock.

(B) A stone whirled in a circle.

(C) A potter shaping a pot.

(D) A mosquito in flight.

────(Space for rough work)────

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34 A light sensor has a scale of 0 to 5. Materials that block light completely will show the lowest reading while materials that do not block light will show the highest reading. What can the readings be when light was shone on a piece of tracing and sand papers respectively ?

(A) 0, 5

(B) 3, 5

(C) 2, 0

(D) 5, 0

35 The given figure is of a dry cell.
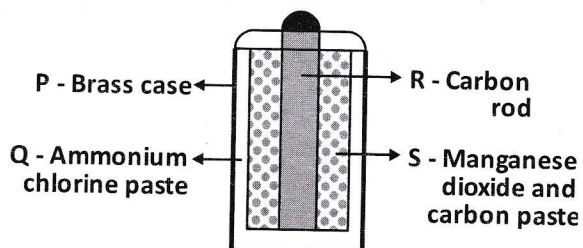
Which of the given parts is wrongly labelled ?

(A) P

(B) R

(C) Q

(D) S

Space for rough work

36   Read the classification table given below.

Group X	Group Y	Group Z
Paper	Key	Silk scarf
Rubber ball	Ceramic bowl	Leather bag
Wooden bench	Metal spoon	Woollen socks

A balloon can be placed in which of the given groups ?

(A) Y   (B) X   (C) Z   (D) X and Y

37   Given below are reversible and irreversible changes.

I.   Growth of plants.

II.   Stretching of rubber band

III.   Burning of paper

IV.   Changing of milk to curd

V.   Dissolving of salt in water

VI.   Weathering of rocks

Identify reversible changes only.

(A) II, IV and VI only   (B) II and VI only

(C) II and V only   (D) II, III and V only

38   A family of six used 42 000 l of water in 2 weeks. How much water did each member use in 1 week on an average ?

(A) 7000 l / week   (B) 3500 l / week

(C) 21 000 l / week   (D) 21 l / week

39 Properties of different substances are given below. Which of them represents a gas ?

	Mass	Volume	Shape	Compressible
(A)	Fixed	Variable	Variable	Yes
(B)	Fixed	Variable	Fixed	No
(C)	Variable	Fixed	Variable	Yes
(D)	Variable	Fixed	Fixed	No

40 Which of the following statements are incorrect ?

(A) Mixture of peanuts and bean seeds can be separated by winnowing.

(B) Salt from sea water can be obtained on a large scale by evaporation.

(C) Seeds of wheat can be separated from a bundle of wheat stalks by sieving.

(D) Both (A) and (C)

41 Given below is a change that occurs in butter.

$$\text{Butter Solid state} \underset{Y}{\overset{X}{\rightleftharpoons}} \text{Butter (Liquid state)}$$
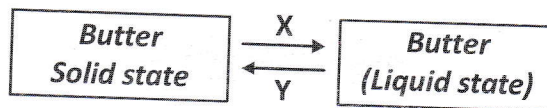
Identify X and Y that cause change in the state of butter.

(A) X - Heat lost, Y - Heat gained

(B) X - Heat gained, Y - Heat lost

(C) X - Release of energy, Y - Absorption of energy

(D) X - Decrease in temperature, Y - Increase in temperature

42 Identify a correct statement.

(A) We can see clearly through an oiled paper.

(B) We can see partially through frosted glass.

(C) We cannot see at all through a cellophane paper.

(D) We can see partially through a metal foil.

**43** Which of the given statements is true based on the figure shown below ?
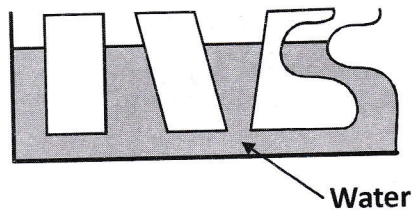
Water

(A) Water takes the shape of its container.

(B) Water level always tends to remain horizontal.

(C) Water has no definite shape.

(D) All of the above

Space for rough work

44 A glass was filled with ice cubes and kept on a table. After sometime water drops were observed sticking to the outside of the glass.
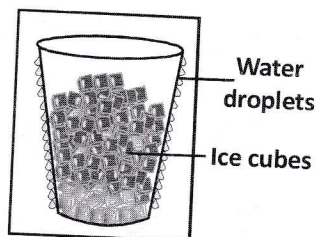
This phenomenon

(A) is known as condensation.

(B) proves that water vapour is present in air.

(C) is also observed when a hot object is cooled in an open place.

(D) Both (A) and (B)

45 Most of the balloons, tyres and footballs are made up of rubber as it is

(A) naturally available.

(B) cheap.

(C) an electrical insulator.

(D) soft and flexible.

(Space for rough work)

46 Study the flow chart given below.
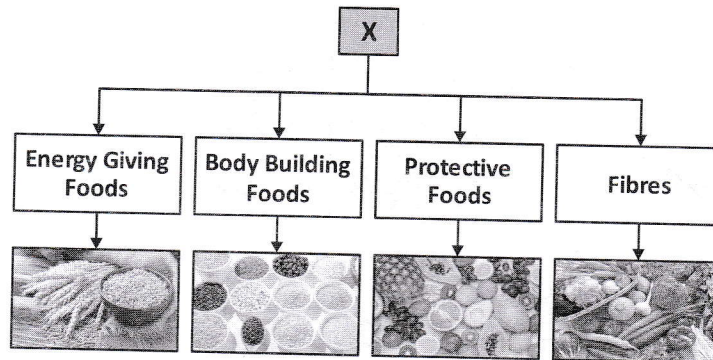
Identify 'X' in the given flow chart.

(A) Nutrients

(B) Substrates

(C) Ingredients

(D) Both (A) and (C)

47 The stems of sugarcane have supporting roots, coming out from the lower nodes of the stem. What can be inferred about such roots ?

i) They are stilt roots that provide support to the plant.
ii) They are usually monocots.
iii) They grow obliquely downwards and penetrate the soil.

(A) (i) and (ii) only

(B) (ii) and (iii) only

(C) (i) and (iii) only

(D) (i), (ii) and (iii) only

──── Space for rough work ────

48 Which of the following are good sources of roughage ?

(A) Milk, meat, soybean, grains

(B) Egg, curd, pulses, fruit juice

(C) Broccoli, fruits, carrot, spinach

(D) Onion, yoghurt, cheese, pulses

49 Identify energy giving foods X and Y in the given flow chart.

ENERGY GIVING FOODS

X   Y
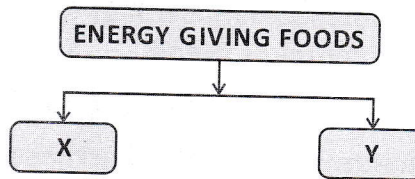
	X	Y
(A)	Protein	Minerals
(B)	Fats	Proteins
(C)	Fats	Carbohydrates
(D)	Vitamins	Minerals

Space for rough work

50 Parasitic roots are also called as sucking roots. What is the function of such roots ?

(A) They help to increase the fertility of the soil by nitrogen fixation.

(B) These roots absorb atmospheric air for respiration.

(C) They protrude into the host plant for absorption of nutrients.

(D) They have sucking tissues to absorb moisture from air.

51 Identify the 'farmer's friend'.

(A) Snail   (B) Cockroach

(C) Earthworm   (D) Backbone

52 Raju observed swelling in his neck region. What could be the disease he is suffering from ?

(A) Anaemia   (B) Marasmus

(C) Scurvy   (D) Goitre

(Space for rough work)

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53 Which of the following tests is used to detect the presence of proteins ?

> (I) Benedict's solution
> (II) Million's reagent
> (III) Iodine

(A) II only

(B) I and III only

(C) II and III only

(D) I, II and III

54 Which of the following plants stores its food in the root system ?

(A) Brinjal

(B) Bean

(C) Carrot

(D) Sugarcane

55 Which among the following is an immovable joint ?

(A) Shoulder joint

(B) Joint between vertebrae

(C) Joint between upper jaw and skull

(D) Joint between bones in the wrist

(Space for rough work)

Class : 6   *Critical Thinking*

56 Which option has been taken from the same columns as the key ?

KEY :

(A) H ✳ P   (B) 7 ✳ M
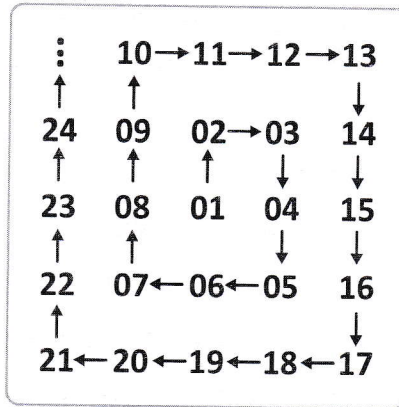
(C) K G ⊛   (D) H ✳ M

57 On which pole does the weight press harder ?
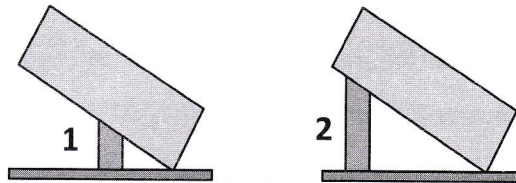
(A) 1   (B) Both (1) and (2)

(C) 2   (D) The weight equally presses both poles

Space for rough work

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58 The diagram shows a spiral of consecutive numbers starting with 1. In which order will the numbers 625, 626 and 627 appear in the spiral ?

```
    ⋮   10→11→12→13
    ↑    ↑           ↓
   24   09   02→03   14
    ↑    ↑    ↑    ↓  ↓
   23   08   01   04  15
    ↑    ↑         ↓   ↓
   22   07←06←05   16
    ↑                  ↓
   21←20←19←18←17
```

(A)
```
627
 ↑
626
 ↑
625
```

(B) 625 → 626 → 627

(C)
```
626 → 627
 ↑
625
```

(D)
```
625 → 626
        ↓
       627
```
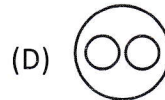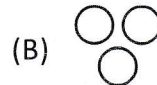

Space for rough work
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59 Given question followed by 5 statements and choose the correct option to answer the question.

There are seven balls of different sizes and colors : Green, Yellow, Blue, Orange, Red, Pink and Black. What is the order of the balls from largest to smallest ?

Statements :

(1) The red ball is larger than the green ball.

(2) The pink ball is the smallest.

(3) The blue ball is the largest.

(4) The green ball is larger than the yellow ball.

(5) The yellow ball is larger than the orange & black balls.

(A) Statements 1, 4 and 5 are sufficient

(B) Statements 1, 2 and 5 are sufficient

(C) Statements 1, 3 and 5 are sufficient

(D) Neither statement is sufficient

60 Which of the following diagrams indicates the best relation between Rabi-Crop, Paddy and Wheat ?

(A)

(B)

(C)

(D)

Space for rough work

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