



BAL BHARATI PUBLIC SCHOOL, PITAMPURA, DELHI – 110034

CRITICAL THINKING

Class VIII

SERIAL NO. -2

VIRUS IN THE FIELD

Shyama is an upcoming organic farming researcher. She planted Heena shrubs in a straight line at a distance of 2m along the boundary of hertriangular field. The diagram shows the plants at the edge of the field.



On Day 1, one of the plants in the middle of one side gets infected with a virus (V).



On Day 2, that plant is dead (D) and the virus infects the plants next to it.



This continues from day to day so this is the pattern on Day 3.



The diagram shows that the virus infects two more plants on day 3. So the total number of plants that are infected or dead is five.

Question 1

Complete the table given below

Day (n)	Total number of plants that are infected or dead (t)
1	1
2	3
3	5
4	
5	

Question 2

Find a formula for t in terms of n

Question 3

If on the 49th day all Henna plants are found dead, find the total number of Henna shrubs that Shyama had planted.

Question 4

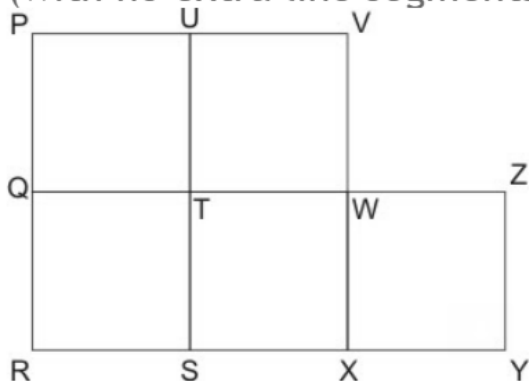
If each Heena shrub occupies a space of 25 cm, find the perimeter of Shyama's field.

Question 5

On the 4th day, Shyama found that the spread of virus can be curbed by increasing the distance to more than 2m between a healthy and an infected plant. She decides to remove the plants next to the infected plants. The cost of removing a plant is Rs 10. Calculate the cost incurred by her for curbing the spread of the virus by removing the infected and the minimum required healthy plants.

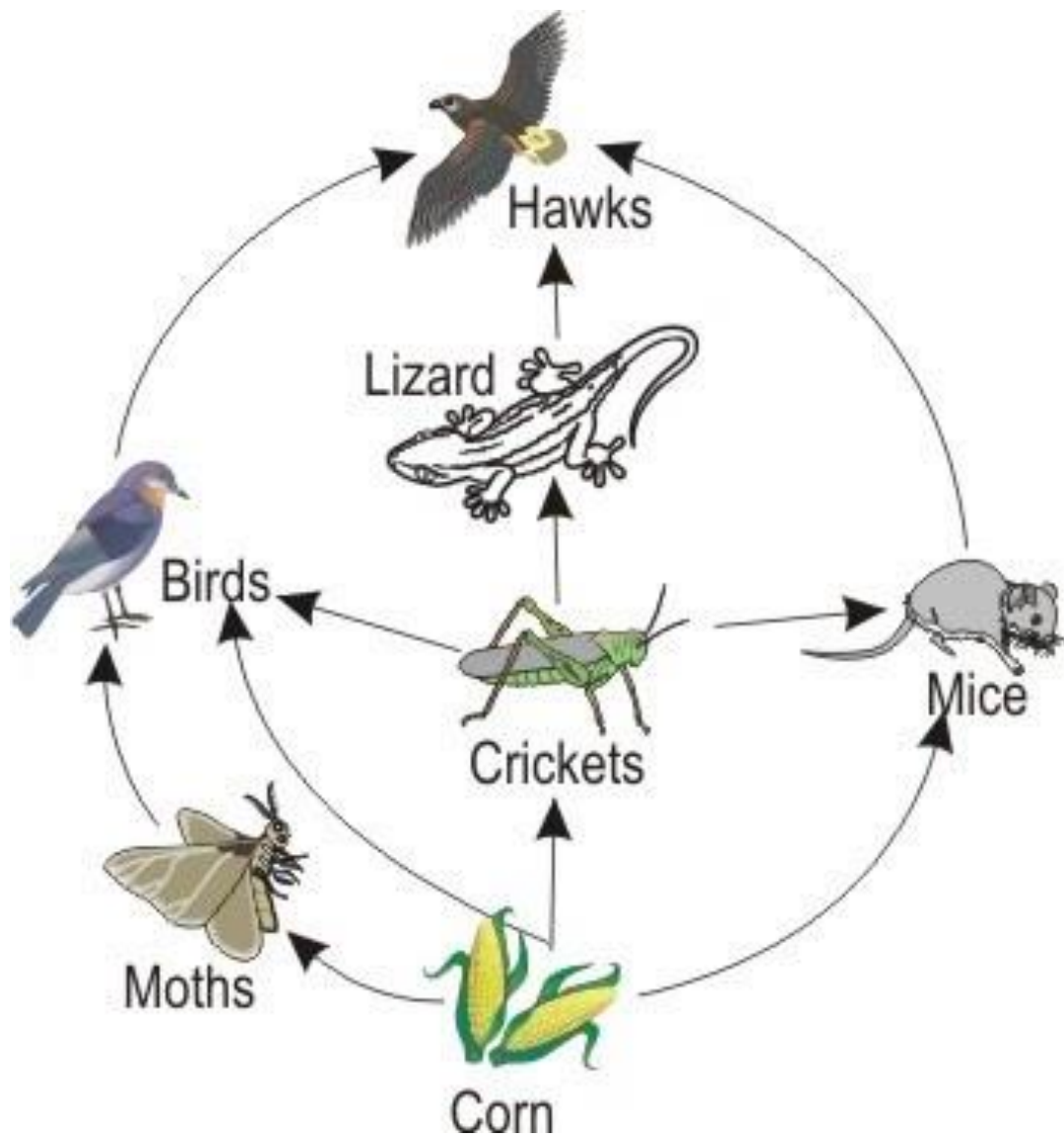
Q2.

Which 3 line segments would you erase to get exactly 3 squares (with no extra line segments)?



- | | | | |
|-------------------------|---------------|-------------------------|---------------|
| <input type="radio"/> A | UV, VW and WZ | <input type="radio"/> B | PU, UT and UV |
| <input type="radio"/> C | UV, VW and SX | <input type="radio"/> D | PU, PQ and SX |

Q3. Which of the following food chains can be made from the given food web?



- a) Mice --> lizard --> bird --> moth
- b) Corn --> bird --> mice --> hawk
- c) Corn --> cricket --> lizard --> hawk
- d) Moth --> cricket --> corn --> mice

Q4. Regular mirrors are actually plane mirrors i.e., a mirror without an inward or outward curve. These mirrors can be found almost anywhere – from bathrooms to hallways to building exteriors. Plane mirrors create upright, virtual, laterally inverted images of the same size as the object

and at the same distance as the objects. The ratio of the size of the image to the size of the object is termed as the 'magnification'.

Answer the following questions: -

(a) A plane mirror produces a magnification of:

- i) 2
- ii) 3
- iii) 1
- iv) 4

(b) If a person of height 1.45 m stands in front of a plane mirror, he/she would get an image as high as:

- i) 1450cm
- ii) 1450mm
- iii) 145mm
- iv) 14.5cm

(c) A car is parked at the road side. A truck passes by it, at a speed of 5m/s. What would be the speed at which the image of the car appears to move away from the truck, as viewed in the rear-view mirror of the truck?

- i) 1m/s
- ii) 2.5m/s
- iii) 5m/s
- iv) 10 m/s

निम्नलिखित प्रश्नों में दिए गए विकल्पों में से विषम शब्द चुनिए

1 -विषम शब्द को चुनिए।

(a) समुद्र

(b) नदी

(c) महासागर

(d) तरणताल

2-(a) लाल

(b) सफेद

(c) नीला

(d) पीला

3- (a) सास

(b) भतीजा

(c) पोता

(d) परदादा

4. (a) भेद

(b) बिखराव

(c) पृथक करना

(d) वर्गीकरण

5 - (a) थका हुआ

(b) सुस्त

(c) धीमा

(d) देर

6- (a) लक्षद्वीप

(b) पुदुचेरी

(c) निकोबार

(d) अण्डमान

7. (a) हृदय रोग विज्ञान

(b) मनोविज्ञान

(c) न्यूरोलाजी

(d) नेफ्रोलॉजी

8. (a) आँख

(b) कान

(c) नाक

(d) प्रकोष्ठ

9 - (a) गेंदा

(b) ट्यूलिप

(c) कमल

(d) गुलाब

10 (a) पीतल

(b) इस्पात

(c) कांस्य

(d) टिन