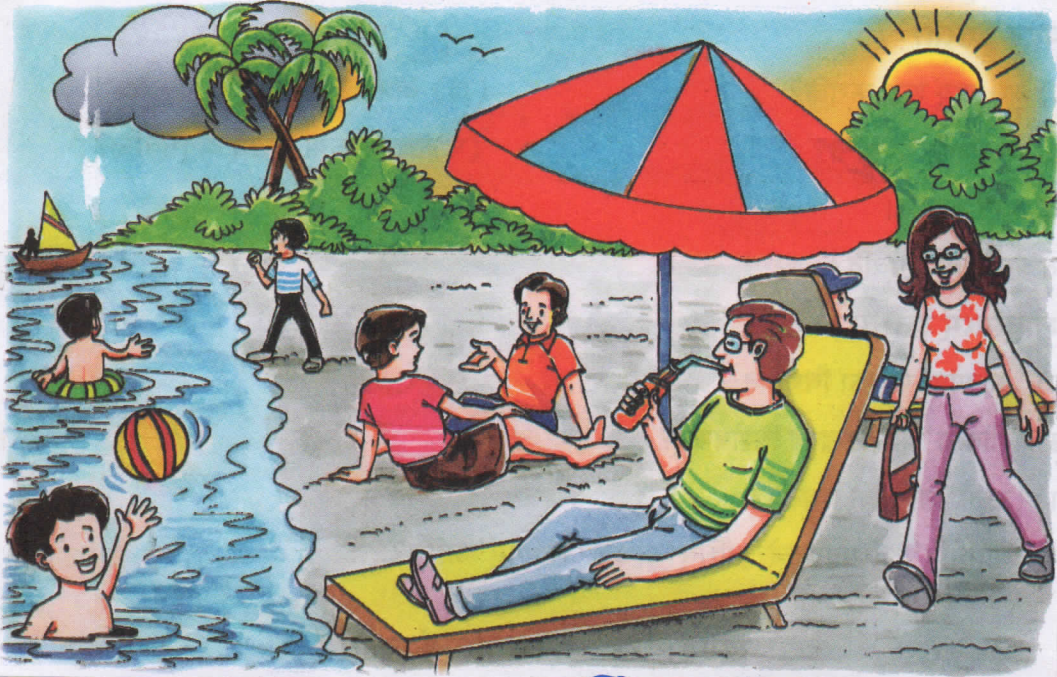


समुद्रतट, बालकाः पादकन्दुकम्, नौका, जलपोतः, नारिकेल वृक्षाः,
समुद्रस्य, जलम्, आकाशे, रक्तवर्णः सूर्यः, क्रीडन्ति, तरन्ति।



- १) एतत् चित्रम् समुद्रतटस्य अस्ति ।
- २) आकाशे सूर्यः दृश्यते ।
- ३) एकः बालकः पादकन्दुकम् क्रीडति ।
- ४) एकः पुरुषः शीतपेयम् पिबति ।
- ५) बालाः समुद्रजले तरन्ति ।

सुभाषितानि

- | | |
|--------------------------------------|---|
| • अद्य मया त्रयः सुविचाराः अवगताः - | 1. आलस्यं मा कुरु
2. उद्यमेन कार्याणि सिध्यन्ति
3. शीलं परम् भूषणम् |
| • द्वि प्रकारेण मया योगदानं दत्तम् - | मया शब्दसम्पत्तिः वर्धिता |
| • दिनाङ्कः - | 25 . 06 . 2019 |
| • एकः प्रश्नः मम मनसि आगतः - | अधुना मनुष्यः स्वार्थी भवति किम्? |

यः समुत्पतितं क्रोधं क्षमयैव निरस्यति ।

यथोरगस्त्वचं जीर्णं स वै पुरुष उच्यते ॥

भावार्थः

जिस प्रकार सांप अपनी जीर्ण-शीर्ण हो चुकी त्वचा को शरीर से उतार फेंकता है, उसी प्रकार अपने सिर पर चढ़े क्रोध को क्षमाभाव के साथ छोड़ देता है वही वास्तव में पुरुष है, यानी गुणों का धनी श्लाघ्य व्यक्ति है ।

सहसा विदधीत न क्रियामविवेकः परमापदां पदम् ।

वृणुते हि विमृश्यकारिणं गुणलुब्धाः स्वयमेव सम्पदः ॥

भावार्थः

किसी कार्य को बिना सोचे-विचारे अनायास नहीं करना चाहिए । विवेकहीनता आपदाओं का परम या आश्रय स्थान होती है । अच्छी प्रकार से गुणों की लोभी संपदाएं विचार करने वाले का स्वयमेव वरण करती हैं, उसके पास चली आती हैं ।

ईशावास्यमिदं सर्वं यत्किञ्च जगत्यां जगत् ।

तेन त्यक्तेन भुञ्जीथा मा गृधः कस्यस्विद्धनम् ॥

भावार्थः

जड़-चेतन प्राणियों वाली यह समस्त सृष्टि परमात्मा से व्याप्त है । मनुष्य इसके पदार्थों का आवश्यकतानुसार भोग करे, परंतु 'यह सब मेरा नहीं है के भाव के साथ' उनका संग्रह न करे ।

Mathematics

Certificate of Participation

This is to certify that **HARSHAL AMBEKAR**

Class **10** *Roll No* **MH2182-10-B-004**

School **NEW HORIZON SCHOLARS SCHOOL**

SECTOR-13, NEAR NATIONAL BURNS HOSPITAL, AIROLI

NAVI MUMBAI, MAHARASHTRA

participated

in the SOF International Mathematics Olympiad, held during Dec. 2018.

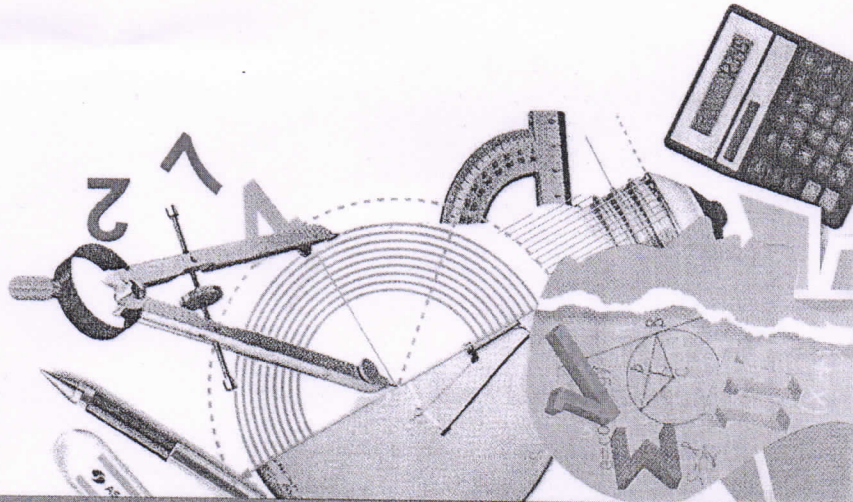
He/She is awarded this certificate for his/her participation in this competition.

Mahabir Singh
Mahabir Singh
Founder Director

Dr. Narindra Virmani
Dr. Narindra Virmani
Chairman

1540715

New Delhi | Gurgaon : January, 2019



MATHS

SELF ASSESSMENT

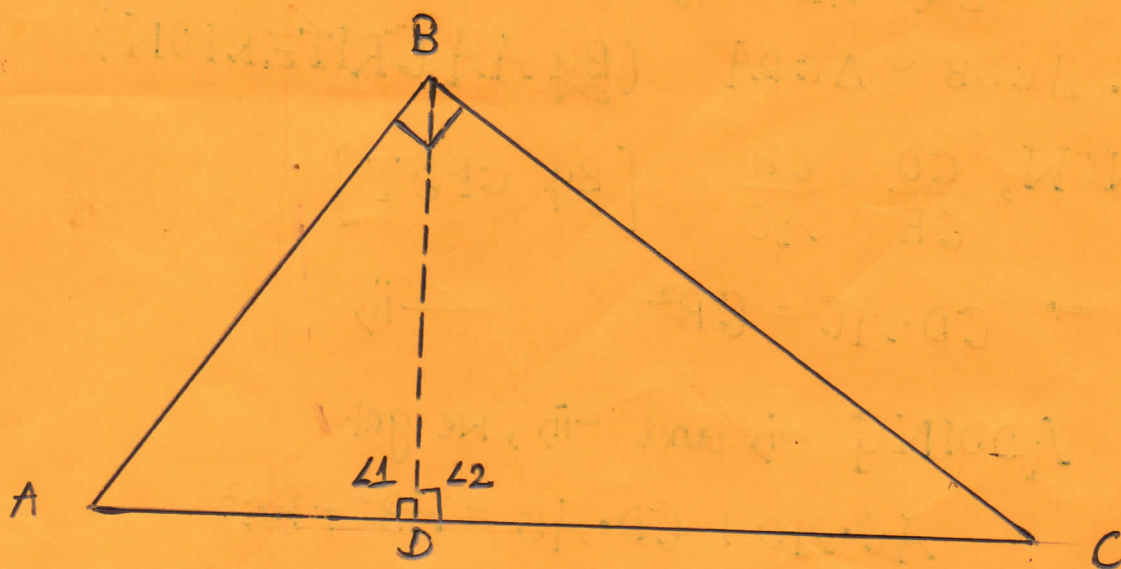
MATHS

$+$
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π
 ∞
 γ

Pythagoras Theorem

"IN A RIGHT TRIANGLE, THE SQUARE OF THE HYPOTENUSE IS EQUAL TO THE SUM OF THE SQUARES OF THE OTHER 2 SIDES"



GIVEN: A TRIANGLE ABC IN WHICH $\angle B = 90^\circ$.

TO PROVE: $AC^2 = AB^2 + BC^2$

CONSTRUCTION: $BD \perp AC$

PROOF: IN $\triangle ADB$ AND $\triangle ABC$,

$$\angle A = \angle A \quad (\text{common})$$

$$\angle D = \angle B = 90^\circ$$

$\therefore \triangle ADB \sim \triangle ABC$ (By AA CRITERION)

NOW,

$$\frac{AD}{AB} = \frac{AB}{AC} \quad [\text{By CPST}]$$

$$\Rightarrow AD \cdot AC = AB^2 \quad \text{--- i)}$$

IN $\triangle CDB$ AND $\triangle CBA$

$$\angle C = \angle C \quad (\text{common})$$

$$\angle 2 = \angle B = 90^\circ$$

$\therefore \triangle CDB \sim \triangle CBA$ (By AA CRITERION)

$$\text{NOW, } \frac{CD}{CB} = \frac{CB}{AC} \quad [\text{By CPST}]$$

$$\Rightarrow CD \cdot AC = CB^2 \quad \text{--- ii)}$$

ADDING -i) and -ii), we get

$$AC \cdot AD + CD \cdot AC = AB^2 + BC^2$$

$$\Rightarrow AC[AD + CD] = AB^2 + BC^2$$

$$\Rightarrow AC \times AC = AB^2 + BC^2$$

$$\Rightarrow \boxed{AC^2 = AB^2 + BC^2}$$

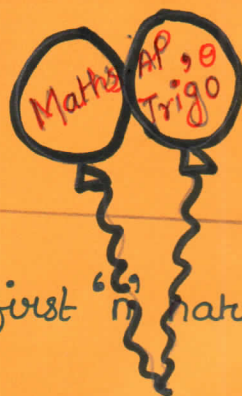
Hence Proved...

Enter rubric description

	Excellent 3 pts The student demonstrates an above average level of proficiency in meeting all criteria outlined below	Good 2 pts The student demonstrates an average level of proficiency in meeting most of the criteria outlined below	Fair 1 pts The student demonstrates a minimal level of proficiency in meeting none of the criteria outlined below
Know parts of a right triangle Students demonstrate knowledge of the appropriate parts of a right triangle.	<u>Excellent</u> The student has correctly drawn and labeled every part of the right triangle for each of the five routes on their map.	<u>Good</u> The student has correctly drawn and labeled every part of the right triangle for at least three of the routes on their map.	Fair The student has correctly drawn and labeled most parts of the right triangle for only one of the routes on their map.
Use Pythagorean Theorem Students demonstrate knowledge of the correct use of the Pythagorean Theorem through use of correct formula, substitutions and calculations.	<u>Excellent</u> The student correctly uses and demonstrates the Pythagorean Theorem to calculate the missing side of all constructed right triangles.	Good The student correctly uses and demonstrates the Pythagorean Theorem to calculate the missing side of more than three of the constructed right triangles	Fair The student correctly uses and demonstrates the Pythagorean Theorem to calculate the missing side of one of the constructed right triangles.
Shapes in model construction Students demonstrate the ability to use the knowledge of shapes to construct a model.	<u>Excellent</u> All of the shapes used created an appropriate representation of the model and aided in finding a solution to the problem	Good Most of the shapes used created an appropriate representation of the model and aided in finding a solution to the problem.	Fair None of the shapes used created an appropriate representation of the model and aided in finding a solution to the problem.



PEER ASSESSMENT



ACTIVITY:

Objective: To understand the formula for the sum of first 'n' natural numbers.

Materials Required: Chart paper, sketchpens, geometry box, and squared paper.

Procedure: ▣ Let us find the sum of first 10 natural numbers i.e.
 $1 + 2 + 3 + \dots + 10$. Here $n = 10$ and $n + 1 = 11$

1. Take grid of squared paper of size 10×11 and paste it on a chart paper
2. Mark the squares by $1, 2, 3, \dots, 10$ on left side of vertical line and mark the squares by $1, 2, 3, \dots, 10, 11$ on the horizontal line
3. Use sketchpens, shade rectangles of length equal to $1\text{cm}, 2\text{cm}, \dots, 10\text{cm}$ of 1cm width each.

Observation: The shaded area is one half of the whole area of the squared paper taken. To see this, cut the shaded portion and place it on the remaining part of the grid. The student will observe that it completely covers the grid.

Area of whole squared paper is $10 \times 11 \text{ cm}^2$

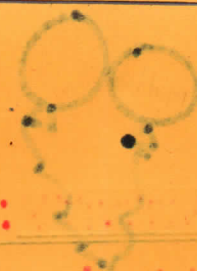
Area of shaded portion is $(10 \times 11) / 2 \text{ cm}^2$

This verifies that, for $n = 10$

Result: Students will be able to find sum of any number of natural numbers pictorially.



PER Assessment



6

Sr. No.	(Parameters)	Yes	No
1	Index/Cover	—	—
2	Neatness	Yes	—
3	Submits work on time	Yes	—
4	Regularly brings file	—	No
5	Does correction work (if any)	Yes	—

Science

Peer Assessment

The magnification of an image formed by a lens is -1 . If the distance of the image from the optical centre of the lens is 25cm , where is the object placed? Find the nature and focal length of the lens. If the object is displaced 15cm towards the optical centre of the lens, where would the image be formed? Draw a ray diagram to justify your answer.

Given : Object distance (u) = -25cm
Magnification (m) = -1

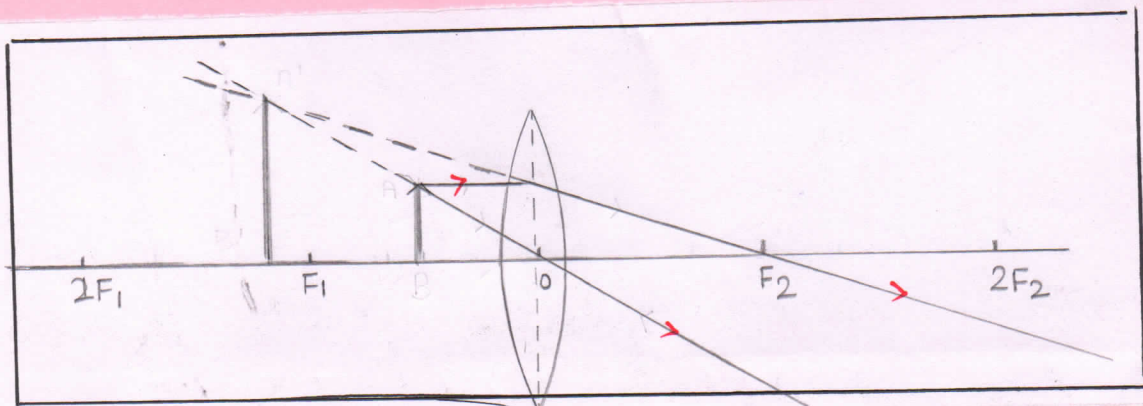
To find : Nature, focal length
new image distance.

Solution :

$M = -1$ This means that image is real and inverted and of the same size as the object.

So Object distance (u) = (v) 25cm on the other side of the lens. Object is at $2F_1$
 $f = \frac{1}{2} \times 25 = 12.5\text{cm}$ Focal length is 12.5cm Nature: Real, *inverted*

(b) When object is displaced 15cm towards the lens: $25 - 15 = 10\text{cm}$
new u is -10cm . Now the object is between F_1 & O . The image will be virtual, erect and magnified.



Nature
Position
Size :

Done by:-
Gneha Yadav

Peer Assessment

1.	specific things your peer has done well	Numericals have been solved. Ray diagram is very neat.
2.	Specific Things your peer could have done better	Units have not been written. Arrows have not been shown. diagram does not show position, nature and size.
3.	How would your peer go about in making the changes?	① Should remember to put the units. ② should practice more to be perfect.

Teacher's Sign:-

Checked By:-