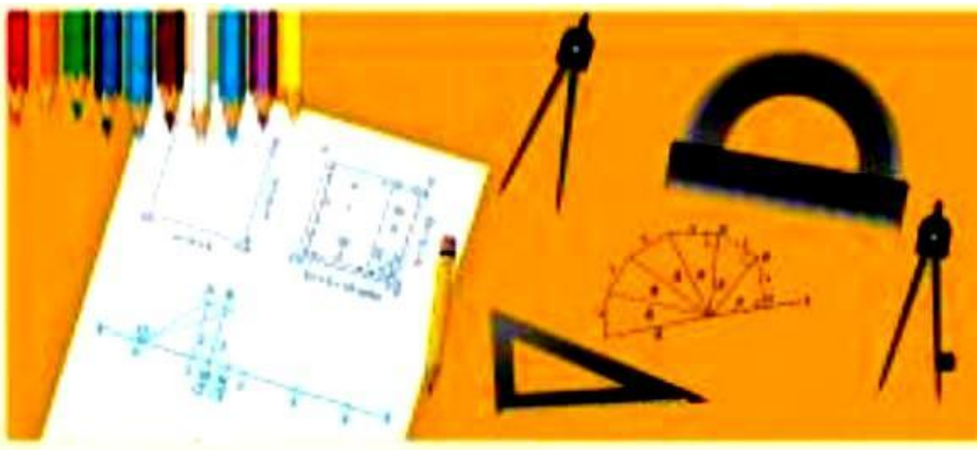


ACTIVITY

Division Of A Paper Strip In Equal Parts

Objective

To divide a thin strip of paper into equal parts (7 equal parts).

Material Required

Tracing sheet, colors, ruled sheet of paper, geometry box.

Theory

Intercept Theorem: If there are three (or more) parallel lines and intercepts made by them on any transversal are equal, then intercepts made by them on any other transversal are also equal.

Procedure

1. Cut a rectangular strip of paper from a tracing sheet which is to be divided into 7 equal parts. Name it as ABCD.

fig. (i)

2. Now, take a ruled sheet, and mark the lines as 0, 1, 2, 3, 4 from top to bottom.
3. Place the paper strip on the ruled sheet such as the point A coincides with the line marked 0 and the point D coincides with the line marked 7 as shown in the fig. (ii).

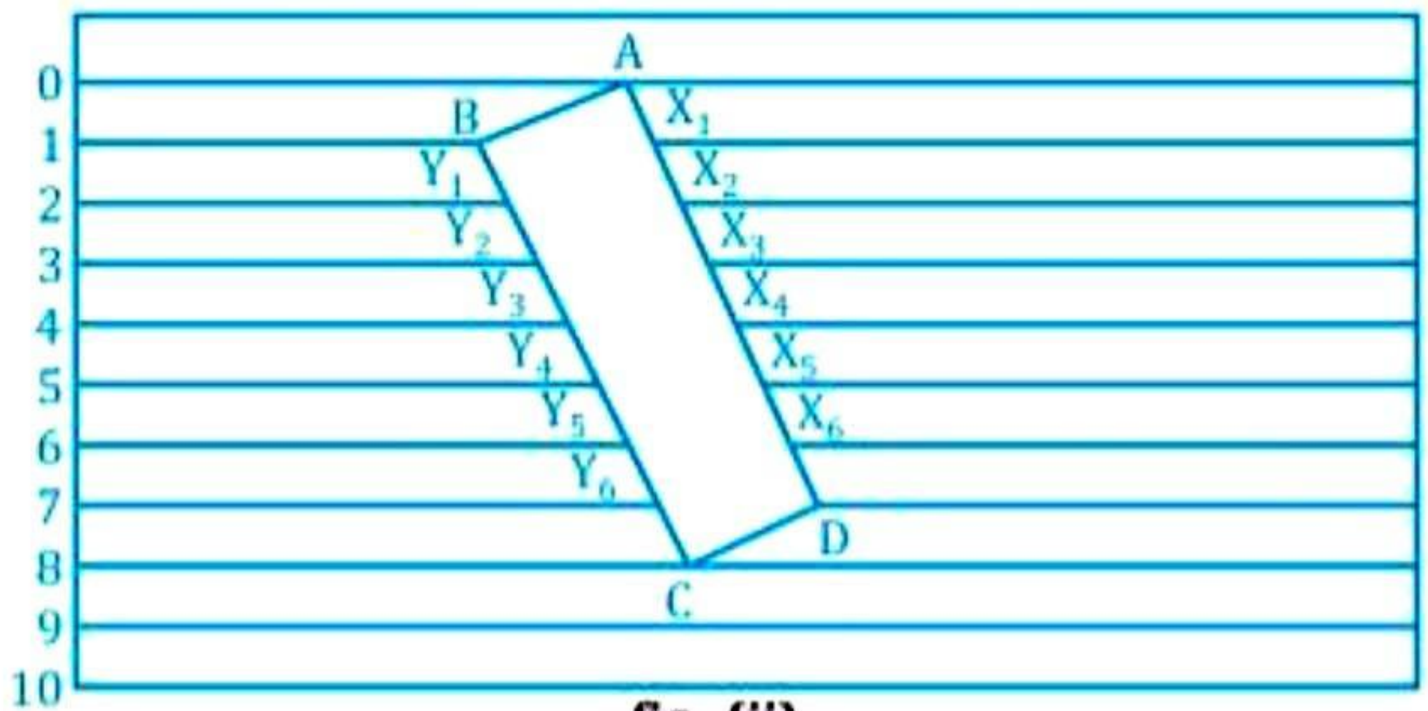


fig. (ii)

4. Mark the points on the strip where parallel lines of ruled sheet cut the strip as $X_1, X_2, X_3, X_4, X_5, X_6$ on line AD and $Y_1, Y_2, Y_3, Y_4, Y_5, Y_6$ on line BC.
5. Now draw the lines $X_1Y_1, X_2Y_2, X_3Y_3, X_4Y_4, X_5Y_5, X_6Y_6$, parallel to AB and color them as shown in fig (iii).

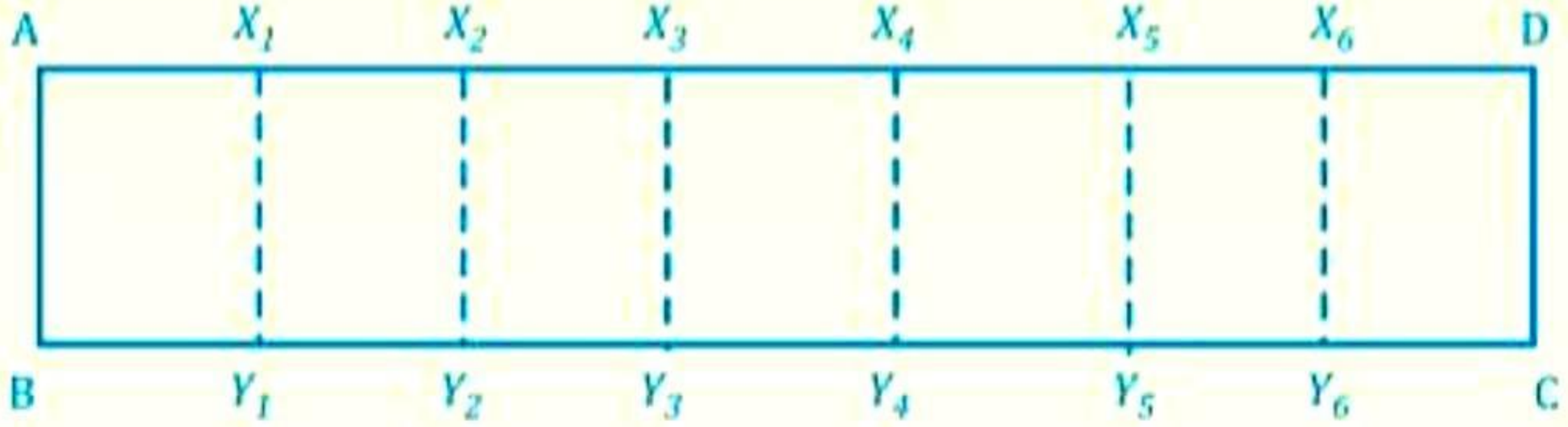


fig. (iii)

Observation

X_1Y_1, X_2Y_2, X_3Y_3, X_4Y_4, X_5Y_5, X_6Y_6 divide the paper strip into seven equal parts.

Result

We obtain an equally divided strip as $AX_1Y_1B = X_1X_2Y_2Y_1 = X_2X_3Y_3Y_2 = X_3X_4Y_4Y_3 = X_4X_5Y_5Y_4 = X_5X_6Y_6Y_5 = X_6DCY_6$.

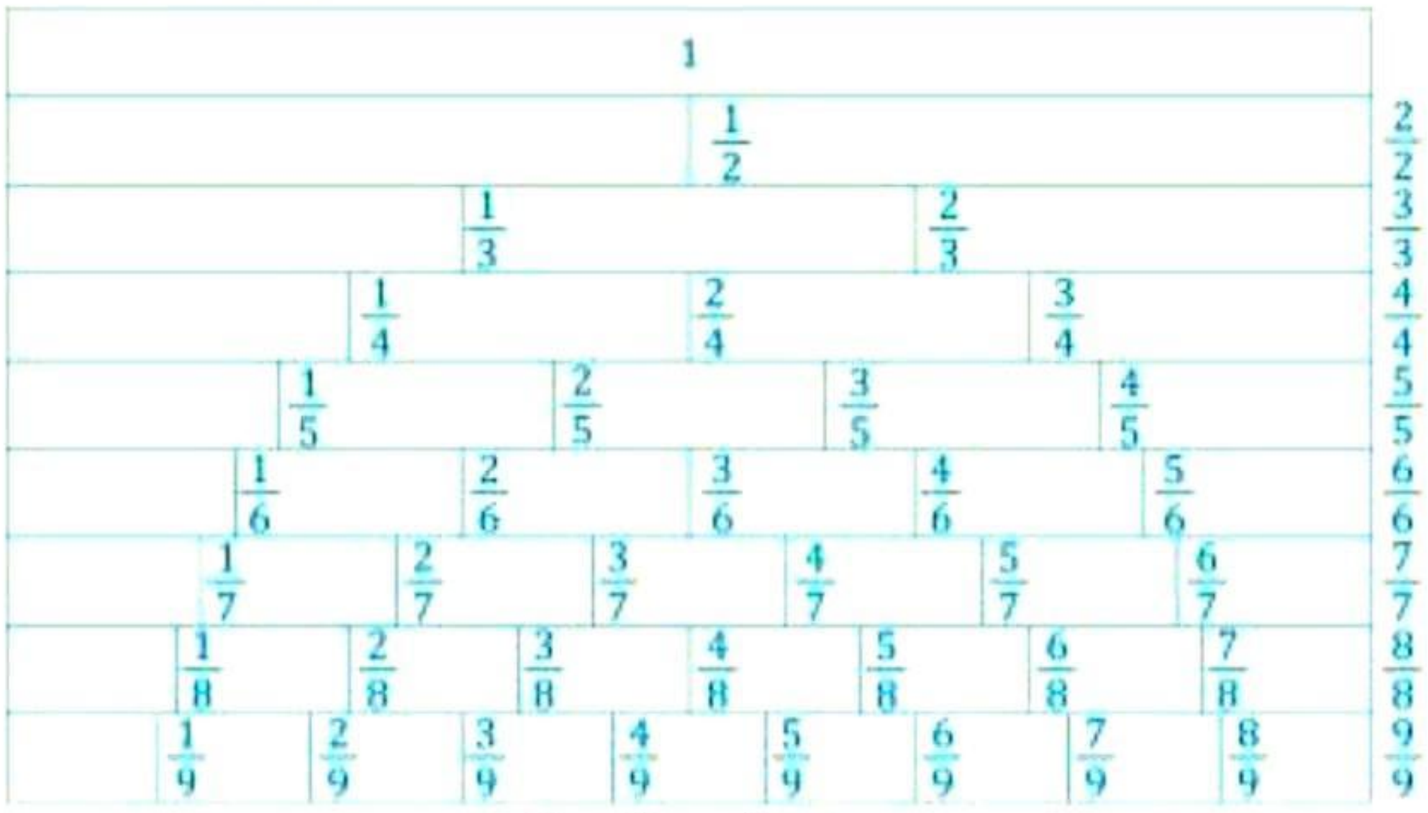
Learning Outcome

Students can divide any rectangular strip into equal parts.

Activity Time

To make a fraction chart.

1. Take 9 strips of the same size and color them with different colors.
2. Now by using a ruled sheet, divide these strips into 1, 2, 3, 4, 5, 6, ...9 equal parts.
3. Paste these divided strips on a chart paper one below the other. See fig. (iv).
4. A beautiful fraction chart is formed. Students may use different color-glazed papers to make them attractive and to identify clearly.



Fraction chart

Viva Voce

Q1. What is $\frac{1}{5}$ th of a rectangular strip?

Ans: A strip is divided into five equal parts; each part is one-fifth.

Q2. What are parallel lines?

Ans: Parallel lines can be defined as two lines in the same plane that are at equal distance from each other and never meet.

Q3. If a strip is divided into 9 equal parts what will be the value of 7 parts?

Ans: $\frac{7}{9}$.

Q4. What is the perimeter of square?

Ans: 4a.

Q5. Can you divide a strip of 11 cm, into 6 equal parts by using a ruler?

Ans: No.

Q6. Can you divide a strip of 12 cm, into 6 equal parts by using a ruler?

Ans: Yes.

Q7. How many folds are required to divide a rope into 20 equal parts?

Ans: 19 folds.

Multiple Choice Questions

Q 1. What is the length of one part of the strip of 12 cm, if it is divided into two equal parts?

(a) 8 cm (b) $\frac{2}{7}$ cm (c) 6 cm (d) None of these

Q 2. What will be the value of 8 parts of a strip if it is divided into 12 equal parts?

(a) $\frac{1}{9}$ (b) $\frac{7}{12}$ (c) $\frac{8}{12}$ (d) None of these

Q 3. If a rectangular strip of 20 cm is divided into 10 equal parts, what will be the length of each part?

(a) 2 cm (b) 1 cm (c) 3 cm (d) None of these

Q 4. What is the equivalent fraction of $\frac{4}{5}$?

(a) $\frac{8}{10}$ (b) $\frac{6}{25}$ (c) $\frac{3}{2}$ (d) None of these

Q 5. Write two equivalent fractions of $\frac{8}{9}$?

(a) $\frac{10}{12}, \frac{15}{18}$ (b) $\frac{16}{18}, \frac{24}{27}$ (c) $\frac{6}{5}, \frac{10}{12}$ (d) None of these

Q 6. To divide a thread into 16 equal parts, how many successive folds will you give?

(a) 15 (b) 16 (c) 17 (d) None of these

Q 7. Write two fractions which is equal to 2.

(a) $\frac{4}{4}, \frac{6}{6}$ (b) $\frac{6}{4}, \frac{5}{3}$ (c) $\frac{18}{9}, \frac{24}{12}$ (d) None of these

Q 8. Add: $2\frac{5}{3} + 7\frac{5}{6} = ?$

(a) $\frac{23}{2}$ (b) $\frac{48}{15}$ (c) $\frac{6}{7}$ (d) None of these

ANSWER KEY

1.(c)	2.(c)	3.(a)	4.(a)	5.(b)	6.(a)	7.(c)	8.(a)