

10-3 Geometry Lab

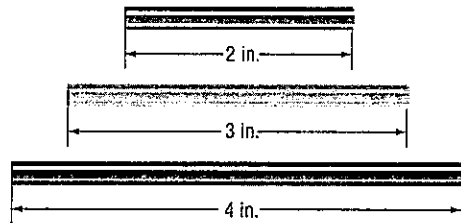
The Triangle Inequality Theorem



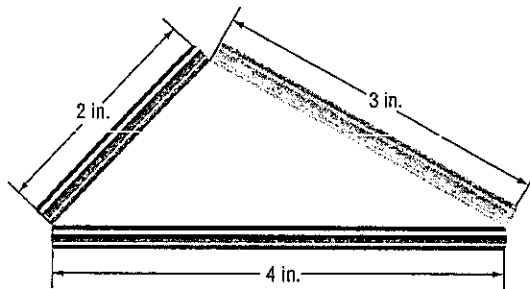
In this lab you will investigate whether it is possible to form a triangle with sides of different lengths.

Activity

Step 1 Use a ruler to cut several straws into sections that measure 1, 2, 3, 4, 5, 6, 7, and 8 inches long.



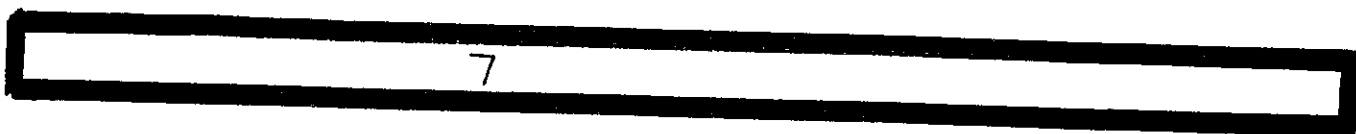
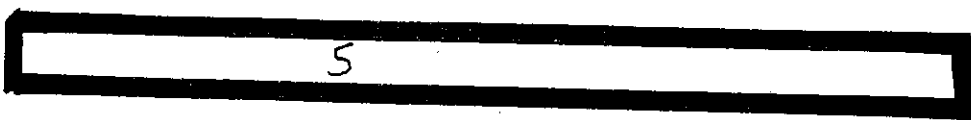
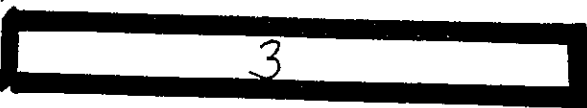
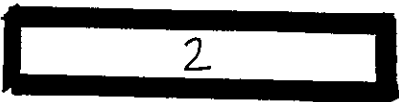
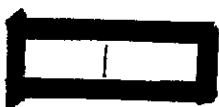
Step 2 Arrange the 2, 3, and 4 inch pieces so that they form a triangle.



Step 3 Copy the table below. Try to build a triangle with the different combinations of given side lengths. If a triangle can be made, enter yes in the table. If a triangle cannot be made, enter no.

Length of First Piece (in.)	Length of Second Piece (in.)	Length of Third Piece (in.)	Triangle?
2	3	4	Yes
1	2	3	■
4	5	8	■
5	6	7	■
1	4	5	■
3	5	6	■
2	3	5	■
4	5	7	■
2	4	6	■
1	2	4	■

Cut out bars to do the Triangle Inequality Theorem



Triangle Inequality Theorem

State if the three numbers can be the measures of the sides of a triangle. Show your work.

1) 24, 12, 10

2) 6, 12, 12

3) 5, 9, 11

4) 8, 17, 10

5) 18, 9, 6

6) 6, 12, 6

Order the angles in each triangle from smallest to largest.

