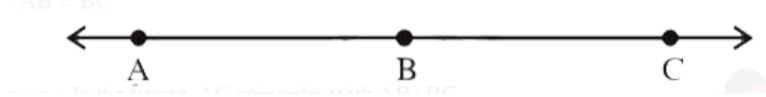# MATHS

NCERT - NCERT MATHEMATICS(BENGALI ENGLISH)

THE ELEMENTS OF GEOMETRY

Examples

1. If A,B,C are three points on a line and B lies between A and C, then prove that AC-AB = BC

2. Prove that an equilateral triangle can be constructed on any given line segment.

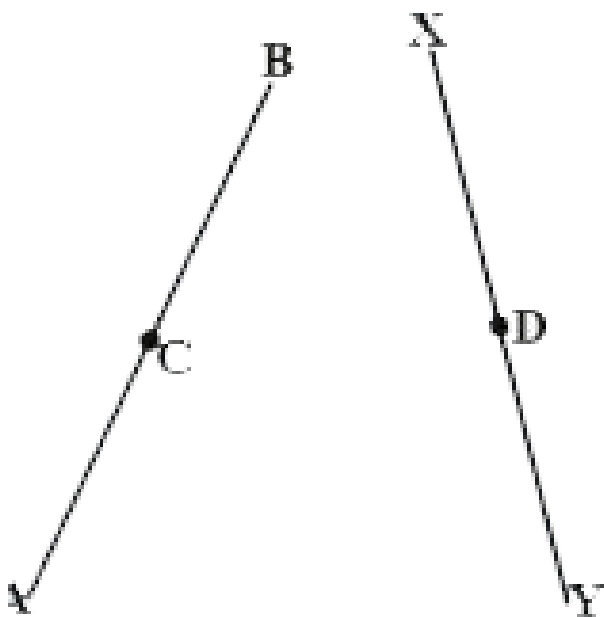**3.** Two distinct lines cannot have more than one point in common.Explain?

4. In the adjacent figure, we have AC = XD, C and D are mid points of AB and XY respectively.

Show that AB = XY.

Try This

1. Can you give any two axioms from your daily life.

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Exercise 3 1

1. Answer the following:

(i) How many dimensions a solid has?

(ii) How many books are there in Euclid's Elements?

(iii) Write the numbers of faces of a cube and cuboid?

(iv) What is sum of interior angles of a triangle?

(v) Write three un-defined terms of geometry?

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2. State whether the following statements are true or false? Also give reasons for your answers.

a) Only one line can pass through a given point.

b) All right angles are equal.

c) Circles with same radii are equal.

d) A line segment can be extended on its both sides endlessly to get a straight line.

e) From the figure, $AB > AC$.

3. In the figure given below, show that length

$$AH > AB + BC + CD.$$

4. If a point Q lies between two points P and R such that PQ = QR, prove that PQ = 1/2 PR.

5. Draw an equilateral triangle whose sides are 5.2 cm. each

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6. What is a conjecture ? Give an example for it.

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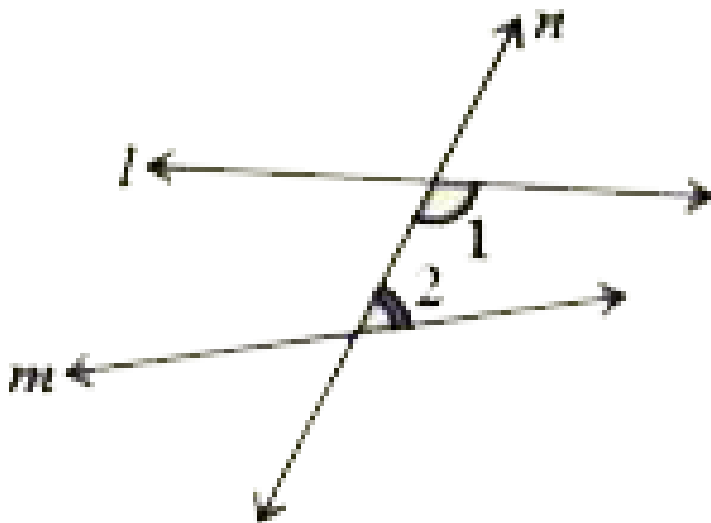
7. Mark two points P and Q. Draw a line through P and Q.

Now how many lines are parallel to PQ, can you draw?

8. In the adjacent figure, a line n falls on lines l and m such that the sum of the interior angles 1 and 2 is less than 180°, then what can you say

about lines l and m.

9. In the adjacent figures, If $\angle 1 = \angle 3$, $\angle 2 = \angle 4$ and $\angle 3 = \angle 4$ write the relations between $\angle 1$ and $\angle 2$ using an Euclid's
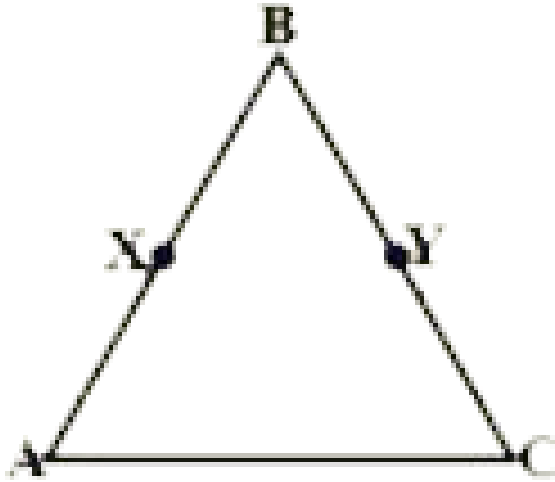
postulate.

10. In the adjacent figure, we have $BX = \dfrac{1}{2}AB$, $BY = \dfrac{1}{2}BC$ and AB=BC. Show
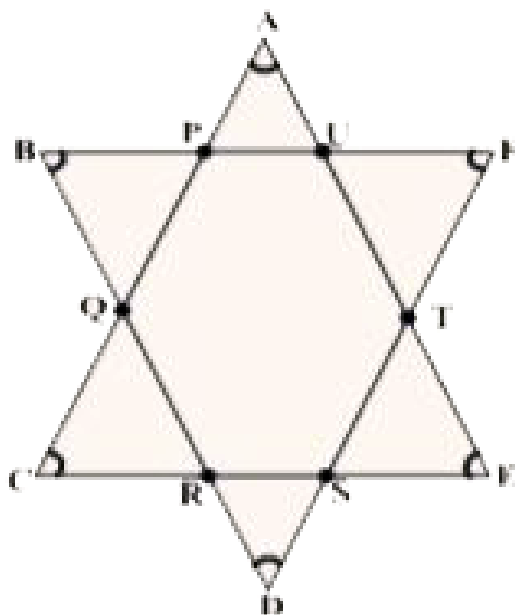
that BX = BY.

Brain Teaser

1. What is the measure of $\angle A + \angle B + \angle C + \angle D + \angle E + \angle F$ in the figure given below. Give reason to your answer.

2. If the diagonal of a square is 'a' units, what is the diagonal of the square, whose area is double that of the first square?