Verification Measure $\angle PLX$ and $\angle PLY$.
You would find that $\angle PLX = \angle PLY = 90°$.

TO DRAW A LINE PARALLEL TO A GIVEN LINE THROUGH A POINT OUTSIDE IT

EXAMPLE 6. A line XY is given and P is a point outside it. Draw a line through P parallel to XY.

Steps of construction

Let XY be the given line and P be a given point outside it.
1. Take any point Q on XY.
2. Join QP.
3. Draw $\angle RPQ$ such that $\angle RPQ = \angle PQY$ as shown in the figure.
4. Extend RP on both sides.
Then, the line RP passes through the point P and $RP \parallel XY$.
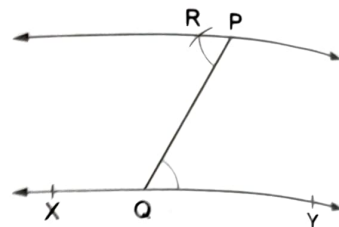
EXERCISE 14A

1. Draw a line segment PQ = 6.2 cm. Draw the perpendicular bisector of PQ.
2. Draw a line segment AB = 5.6 cm. Draw the perpendicular bisector of AB.
3. Draw an angle equal to $\angle AOB$, given in the adjoining figure.
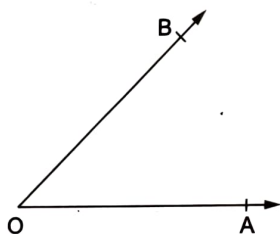
4. Draw an angle of 50° with the help of a protractor. Draw a ray bisecting this angle.
5. Construct $\angle AOB = 85°$ with the help of a protractor. Draw a ray OX bisecting $\angle AOB$.
6. Draw a line AB. Take a point P on it. Draw a line passing through P and perpendicular to AB.
7. Draw a line AB. Take a point P outside it. Draw a line passing through P and perpendicular to AB.
8. Draw a line AB. Take a point P outside it. Draw a line passing through P and parallel to AB.
9. Draw $\angle ABC$ of measure 60° such that AB = 4.5 cm and BC = 5 cm. Through C draw a line parallel to AB and through B draw a line parallel to AC, intersecting each other at D. Measure BD and CD.
10. Draw a line segment AB = 6 cm. Take a point C on AB such that AC = 2.5 cm. Draw CD perpendicular to AB.
11. Draw a line segment AB = 5.6 cm. Draw the right bisector of AB.

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## CONSTRUCTION OF SOME SPECIAL ANGLES USING A PAIR OF COMPASSES

EXAMPLE 1. Construct an angle of 60°, using a pair of compasses.

Steps of construction

    (i) Draw a ray OA.

EXERCISE 14B

1. Using a pair of compasses construct the following angles:
   (i) 60°   (ii) 120°   (iii) 90°

2. Draw an angle of 60°, using a pair of compasses. Bisect it to make an angle of 30°.

3. Draw an angle of 45°, using a pair of compasses.

4. Use a pair of compasses and construct the following angles:

   (i) 150°   (ii) 15°   (iii) 135°   (iv) $22\dfrac{1}{2}°$

   (v) 105°   (vi) 75°   (vii) $67\dfrac{1}{2}°$ (viii) 45°

5. Draw a rectangle whose two adjacent sides are 5 cm and 3.5 cm. Make use of a pair of compasses and a ruler only.

6. Draw a square, each of whose sides is 5 cm. Use a pair of compasses and a ruler in your construction.
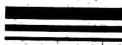
TEST PAPER-14

A. 1. How many lines can be drawn to pass through

(i) a given point

(ii) two given points

(iii) three given points?

2. Classify the angles whose magnitudes are given below.

(i) 50° (ii) 92° (iii) 185° (iv) 90° (v) 180°

3. Draw the perpendicular bisector of a given line segment AB of length 6 cm.

4. Construct an angle of 120° and bisect it.

5. Construct an angle of 90° and bisect it.

6. Draw a rectangle whose two adjacent sides are 5.4 cm and 3.5 cm.

B. Mark (✓) against the correct answer in each of the following:

7. Which of the following has no end points?

(a) A line segment (b) A ray (c) A line (d) none of these

8. Which of the following has one end point?

(a) A line (b) A ray (c) A line segment (d) none of these

9. Which of the following has two end points?

(a) A line segment (b) A ray (c) A line (d) none of these

10. Two planes intersect

(a) at a point (b) in a line (c) in a plane (d) none of these

11. $\frac{3}{2}$ right angles = ...

(a) 115° (b) 135° (c) 230° (d) 270°

12. Where does the vertex of an angle lie?

(a) in its interior (b) in its exterior (c) on the angle (d) none of these

13. An angle measuring 270° is

(a) an obtuse angle (b) an acute angle

(c) a straight line (d) a reflex angle

C. 14. Fill in the blanks.

(i) A line has ...... end point.

(ii) A ray has ...... end point

(iii) A line ...... be drawn on a paper.

(iv) 0° ...... acute angle ...... 90° < obtuse angle < 180°.

(v) The standard unit of measuring an angle is ....

D. 15. Write 'T' for true and 'F' for false for each of the statements given below:

(i) If two line segments do not intersect, they are parallel.

(ii) If two rays do not intersect, they are parallel.

(iii) If two lines do not meet even when produced, they are called parallel lines.

(iv) Two parallel lines are everywhere the same distance apart.

(v) A ray has a finite length.

(vi) Ray $\overrightarrow{AB}$ is the same as ray $\overrightarrow{BA}$.

Do all this work in Maths Geometry copy