

Determining Complementary Angles

OBJECTIVE

To identify the conditions under which a given pair of angles (say 60° , 30°) are complementary.

PRE-REQUISITE KNOWLEDGE

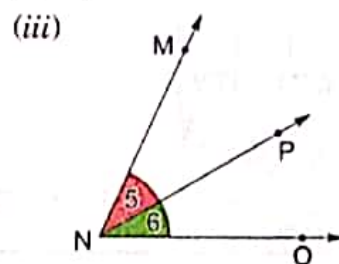
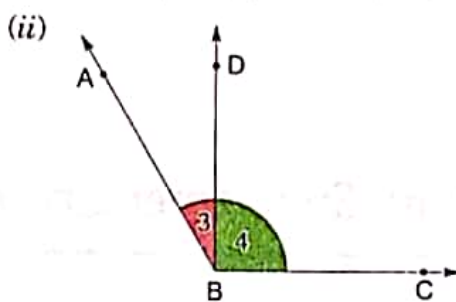
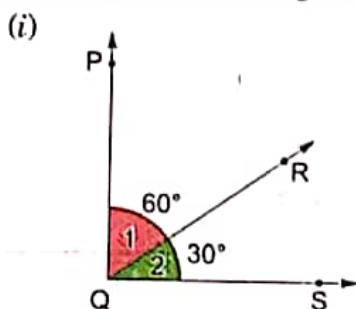
- (i) About angles of different measures
- (ii) About adjacent angles
- (iii) About measuring angles
- (iii) About cutting and pasting.

MATERIALS REQUIRED

- 1. A protractor
- 2. A pencil
- 3. Colour pencils / sketch pens
- 4. A pair of scissors
- 5. Gum
- 6. An eraser

PROCEDURE

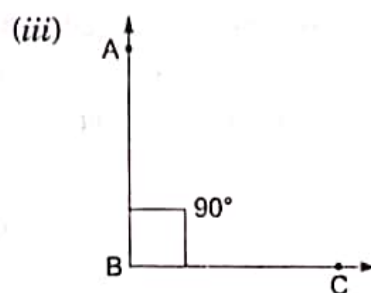
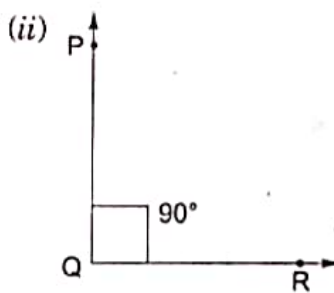
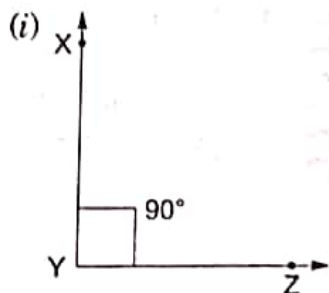
1. Draw three different pairs of adjacent angles on three straight lines as shown below. Name the pairs of angles formed as $(\angle 1, \angle 2)$, $(\angle 3, \angle 4)$ and $(\angle 5, \angle 6)$.



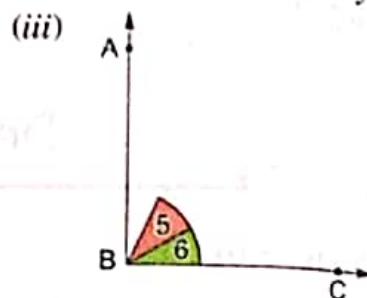
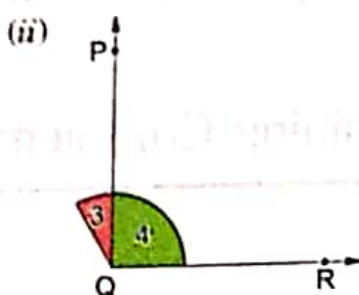
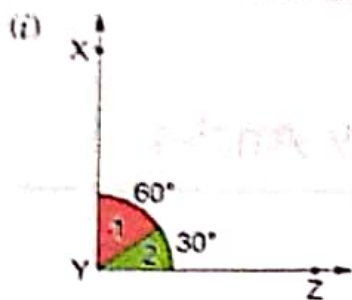
2. Shade all the pairs of adjacent angles with two different colours.
3. Cut a small portion of all angles as shown below.



4. Draw the three right angles with protractor.



5. Paste all the cut-outs of the three pairs of adjacent angles on these right angles separately.



OBSERVATION

We observe that the two angle cut-outs of the given pair of angles (60° , 30°) combine together and superimpose the right angle XYZ completely. Hence, the two angles of 60° and 30° are complementary to each other.

CONCLUSION

The students will be able to identify the condition under which a pair of angles are complementary that "a pair of angles are complementary if their sum is 90° ".

LAB ACTIVITY

4B

Determining Supplementary Angles

OBJECTIVE

To identify the conditions under which a given pair of angles (say 120° , 60°) are supplementary.


PRE-REQUISITE KNOWLEDGE

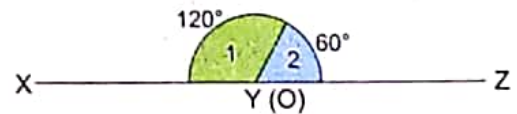
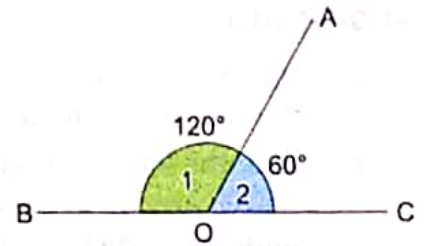
- (i) Concept of angles
- (ii) Concept of measuring angles
- (iii) Concept of adjacent angles
- (iv) Concept of cutting and pasting

MATERIALS REQUIRED

- 1. A protractor
- 2. A pencil
- 3. An eraser
- 4. A pair of scissors
- 5. Gum
- 6. Colour pencils / sketch pens

PROCEDURE

1. Draw the given pair of two angles of measures 120° and 60° . Name the two angles formed as $\angle 1$ ($\angle AOB$) and $\angle 2$ ($\angle AOC$).
2. Shade $\angle 1$ and $\angle 2$ with two different colours.
3. Cut a small portion of both the angles properly as shown alongside. 
4. Draw a straight angle $\angle XYZ$.
5. Paste the two angle cut-outs ($\angle 1$, $\angle 2$) on this straight angle properly.
6. Repeat steps 1 to 5 by taking another set of angles.



OBSERVATION

We observe that the two angle cut-outs combine together and completely superimpose the straight angle XYZ i.e., $\angle BOC$ completely coincides with $\angle XYZ$.

Hence, the two angles of measures 120° and 60° are supplementary to each other.

CONCLUSION

The students will be able to identify the condition under which a pair of angles are supplementary that "a pair of angles are supplementary if the sum of their degree measures is 180° ".