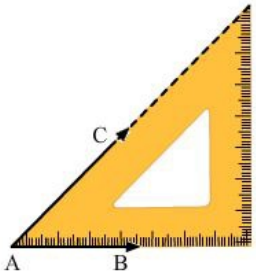
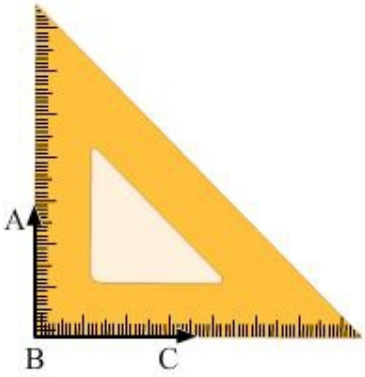
Basic Geometric Tools Ex 18.1 Q1

Answer :

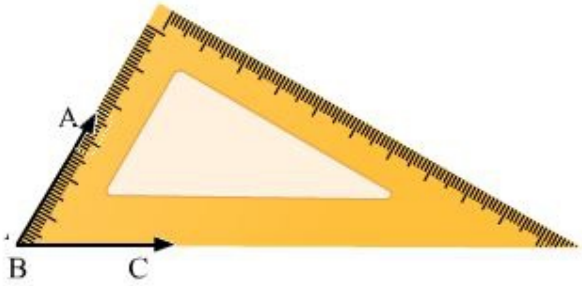
(i) Place 45° set-square.
Draw two rays AB and AC along the edges from the vertex of 45° angle of the set-square.
The angle so formed is a 45° angle.
∠BAC = 45°



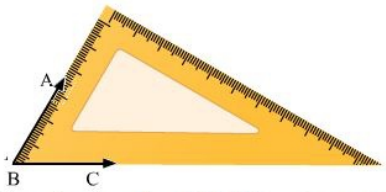
(ii) Place 45° set-square as shown in the figure.
Draw two rays BC and BA along the edge from the vertex of 90° angle.
The angle so formed is 90° angle.
∠ABC = 90°



(iii) Place 30° set-square as shown in the figure.
Draw the rays BA and BC along the edges from the vertex of 60°.
The angle so formed is 60°.
∠ABC = 60°



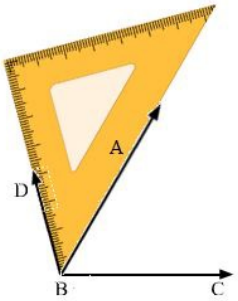
(iv) Place 30° set-square and make an angle of 60° by drawing the rays BA and BC as shown in the figure.



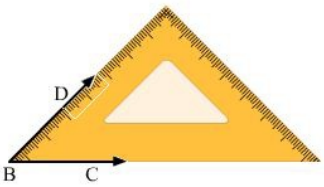
Now, place the vertex of 45° of the set-square on the ray BA as shown in the figure and draw the ray BD.

The angle so formed is 105°

∴ ∠DBC = 105°



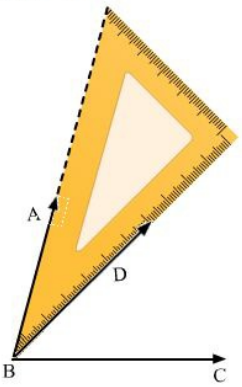
(v) Place 45° set-square and make an angle of 45° by drawing the rays BD and BC as shown in the figure.



Now, place the vertex of 30° of the set-square on the ray BD as shown in the figure and draw the ray BA.

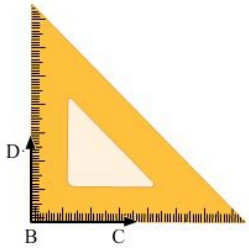
The angle so formed is 75°.

∴ ∠ABC = 75°



(Line BD is hidden)

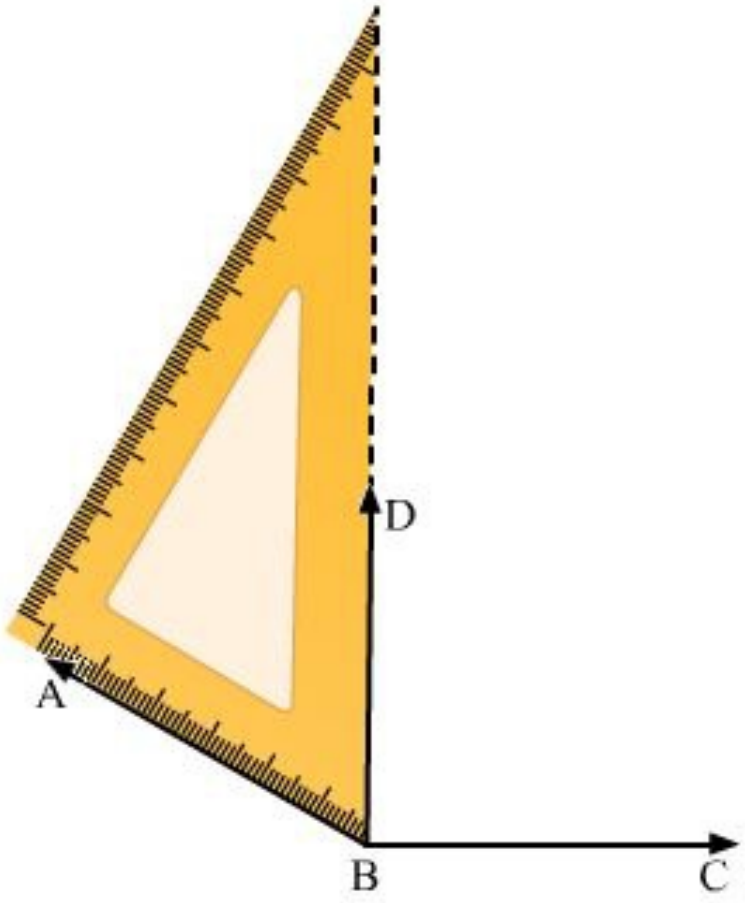
(vi) Place the vertex of 45° of the set-square and make angle of 90° by drawing the rays BD and BC as shown in the figure.



Now, place the vertex of 30° of the set square on the ray BD as shown in the figure and draw the ray BA.

The angle so formed is 150°.

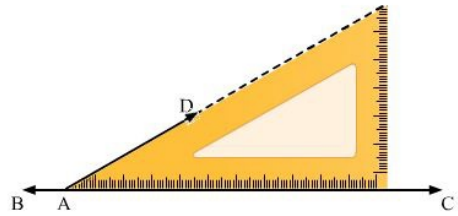
∴ ∠ABC = 150°



Basic Geometric Tools Ex 18.1 Q2

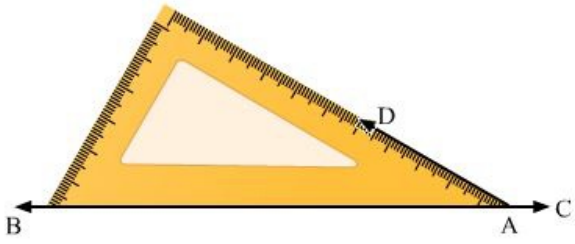
Answer :

(i) Draw a line BC and take a point A on it. Place 30° set-square on the line BC such that its vertex of 30° angle lies on point A and one edge coincides with the ray AC as shown in the figure.
Draw the ray AD.



Thus, ∠DAC is the required angle of 30°.

(ii) Draw a line BC and take a point A on it. Place 30° set-square on the line BC such that its vertex of 30° angle lies on point A and one edge coincides with the ray AB as shown in the figure.
Draw the ray AD.



$\angle DAB = 30°$

We know that the angles an one side of the straight line will always add to 180°.

$\therefore \angle DAB + \angle DAC = 180°$

$30° + \angle DAC = 180°$

$\angle DAC = 180° - 30°$

$\therefore \angle DAC = 150°$

********** END **********