EXERCISE 11.2

Write True or False in each of the following. Give reasons for your answer:

1. An angle of 52.5° can be constructed.

Solution:

True

Justification:

$52.5° = ½ \times 105° = ½ \times (90° + 15°)$

We know that,

It is possible to construct both 90° and 15° with the help of ruler and compass.

Therefore angle of 52.5° can be constructed.

2. An angle of 42.5° can be constructed.

Solution:

False

Justification:

$42.5° = ½ \times 85°$

We know that,

It is possible to construct 85° with the help of ruler and compass.

Therefore, angle of 42.5° cannot be constructed.

3. A triangle ABC can be constructed in which AB = 5 cm, ∠A = 45° and BC + AC = 5 cm.

Solution:

True

Justification:

We know that,

Sum of any two sides of a triangle must be greater than the third side.

Here,

BC + AC = 5cm = AB which does not satisfy the above condition that the sum is equal to the third side.