B

A

O

Object A is orbiting point O at 60 degrees per second on a 2-D plane. The orbit has a radius of 11 meters. Object B has a velocity of 7 ms. If the coordinates of object A, B and point O are known, at what bearing should object B travel to meet with Object A in the fastest possible time?

**Solution**

*x*

*y*

α

C (*x*3, *y*3)

11 m

B (*x*1, *y*1)

A (*x*2, *y*2)

O (*x*4, *y*4)

Let t be time of meeting.

With that assumption:

согласно теореме косинусов

Для треугольника АВС верно применим теорему косинусов: