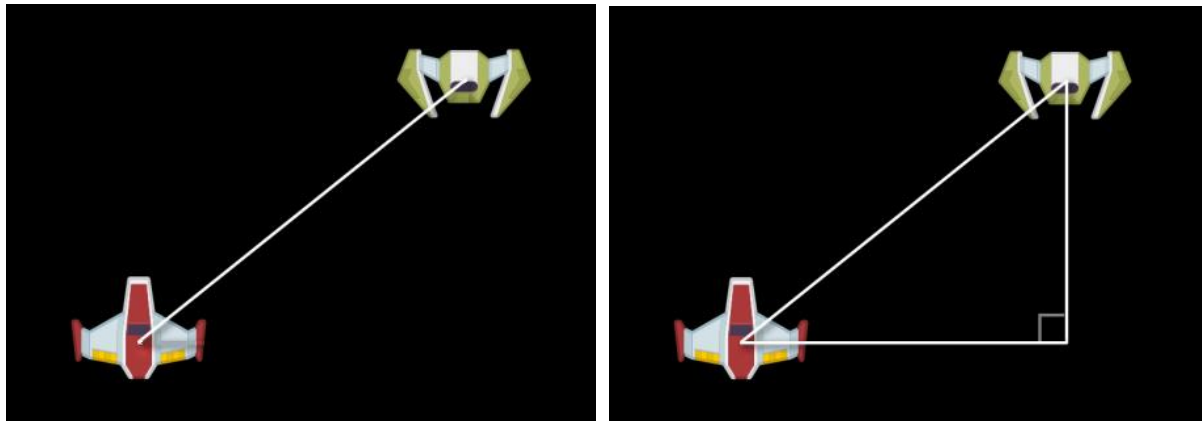


Examples of Trigonometry Used in Computer Graphics Applications

Video Games

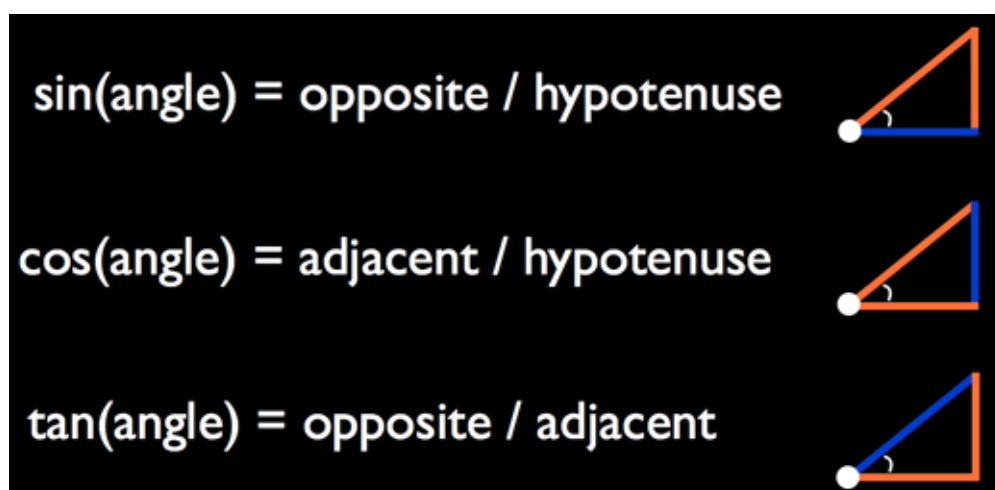
Trigonometry is used widely in video games for the game to work perfectly. Trigonometry are mostly used to program an object so it can move in the game. Trigonometry are also used for turning an object and determining the speed of an object moving. For example, in a spaceship games, trigonometry is used to calculate the distance between ships.



The distance between the ships and the implementation of trigonometry to calculate the distance

If you know the X and Y coordinates of each ship, we can simply draw line from centre point of each ship to form a triangle. Then, you can compute the length of each new lines. Finally, you can use Trigonometry to calculate the length of the diagonal line for the distance between the ships.

In the diagram, we notice that the triangle has an angle of 90-degree. In trigonometry, it is also known as right triangle. Therefore, we can use Trigonometry Ratio to calculate the distance.



The trigonometric ratio

References:

1. Matthijs Hollemans, 2013, Trigonometry for Game Programming: Part ½,
<<https://www.raywenderlich.com/2736-trigonometry-for-game-programming-part-1-2>>
2. Sarah C, Trigonometry, 2015, Trigonometry in Game Development,
<<https://prezi.com/fozjzdqmlhta/trigonometry-in-game-development/>>