

Angle of movement

I found the angle of movement depending on inverse kinematics, I assumed that we want to move robot's leg to the point: (57.55, 28) on the cartesian coordinate system. The the value of x is 57.55 and the value of y is 28. As given to us that the length of the robot leg is 64 cm, now we have three values that represent the side lengths of a right-angled traingle. Depending on the trigonometric functions of right-angled traingle we can find the angle of the movement by using the following formula:

$\sin \theta = \text{opposite side} / \text{hypotenuse}$

$$\sin \theta = 28/64$$

$$\theta = \arcsin(28/64)$$

$$\theta = 25.94^\circ$$

Click [here](#) to see the representation of points on the Cartesian coordinate system.

Animate robot leg

- ♦ Click [here](#) to access my 3D design for robot legs.
- ♦ Click [here](#) to see the animation of the leg.
- ♦ Click [here](#) to see the robot leg when the angle is 0
- ♦ Click [here](#) to see the robot leg when the angle is 24.95

Parts lengths

Click [here](#) to see my suggestion for parts lengths of the robot leg.