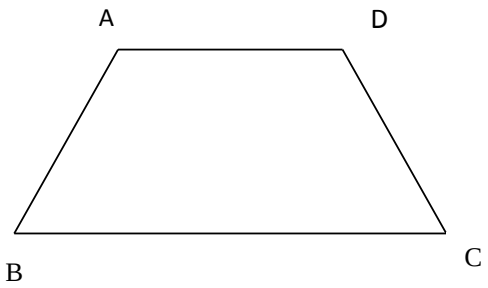
let ABCD be an isosceles trapezoid with three of the vertices being A(5,5), B(-1,3) and C(3, -3). If line AB forms one leg, then what is the length of line CD?



It's a strange task. I don't understand why we need coordinates of point C. It is unnecessary. It will have sense if AB will be one of bases.

If line AB forms one leg, then CD forms another leg. ABCD is an isosceles trapezoid than AB = CD.

Let we have 2 points $A(x_1, y_1)$ and $B(x_2, y_2)$, then $AB = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$.

In our case: $AB = \sqrt{(-1-5)^2 + (3-5)^2} = \sqrt{36+4} = \sqrt{40} = 2\sqrt{10} = CD$.

Answer: $2\sqrt{10}$