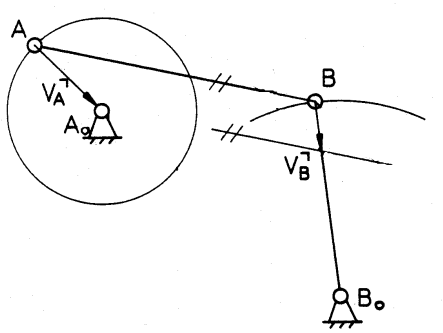
Exercise 1.7:

a) Graphic analysis of the velocity of a crank-and-rocker
b) Analysis using the PC-Program SAM 6.0



a) Graphic analysis of a 6-link mechanism	b) Analysis using the PC-Program SAM 6.0
Please make a sketch on a sheet of paper (DIN A4) with the given coordinates in mm: A_o (0/0) A (-30/30) B (90/10) B_o (100/-80) For n = 10 s^{-1} is $\omega = 2\pi n = 62.83\ s^{-1}$ Velocity is given by $v_A = \omega\ r = 62.83\ s^{-1}$x 42,4 mm = 2665.7 mm/s $v_A = 2.7$ m/s Now take the length of v_A⌝ equal to the length of the crank A_oA. Your scale for velocities is: 1cm ≡ 0.64 m/s Now find the vector of the rotated velocity v_B⌝ and its value by using the parallel line. What is the Result in [m/s] ?	Create the crank-and-rocker with the given coordinates (s. left). Use the **Input motion**: Motion 360 [deg] Time 0.1 [s] Intervals 36 [-] (Time T means the time for one revolution. So for the given n = 10 s^{-1} , the time T = 1/n = 0.1 s) Now calculate with the **Abacus** icon, N**ode Data** click to points A and B **Absolute:** √ **Velocity** and let the mechanism move by using the **Windmill** icon. Show the coupler curve of the points A and B by using: **Display** and **Path**. Then show the Hodograph by using: **Display** and **Hodograph**. Look at the **Graph of Selected items**