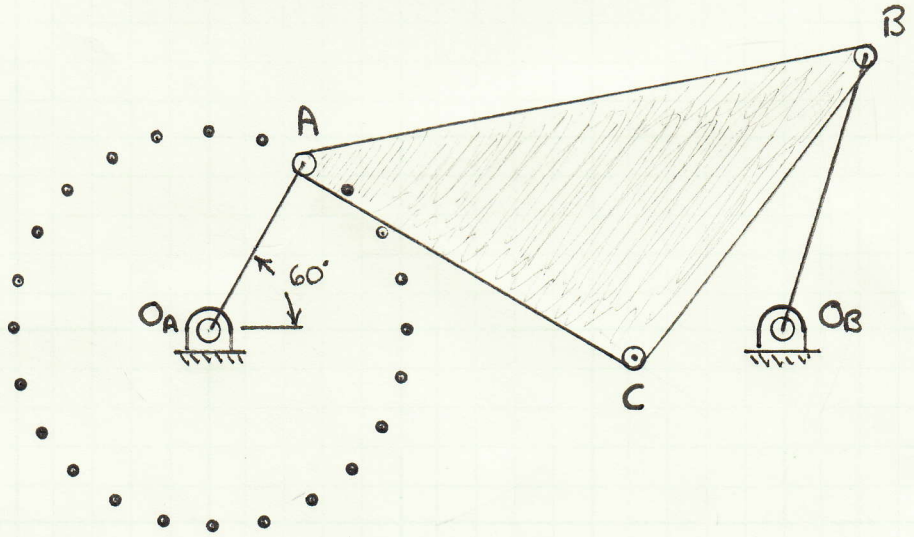
PROB 2.2 | DETERMINE THE PATH OF POINT C USING 15° INCREMENTS OF ROTATION OF LINK 1. (O_AA=1.0, AB=3.0, O_BB=1.5, O_AO_B=3.0, AC=BC=2.0)

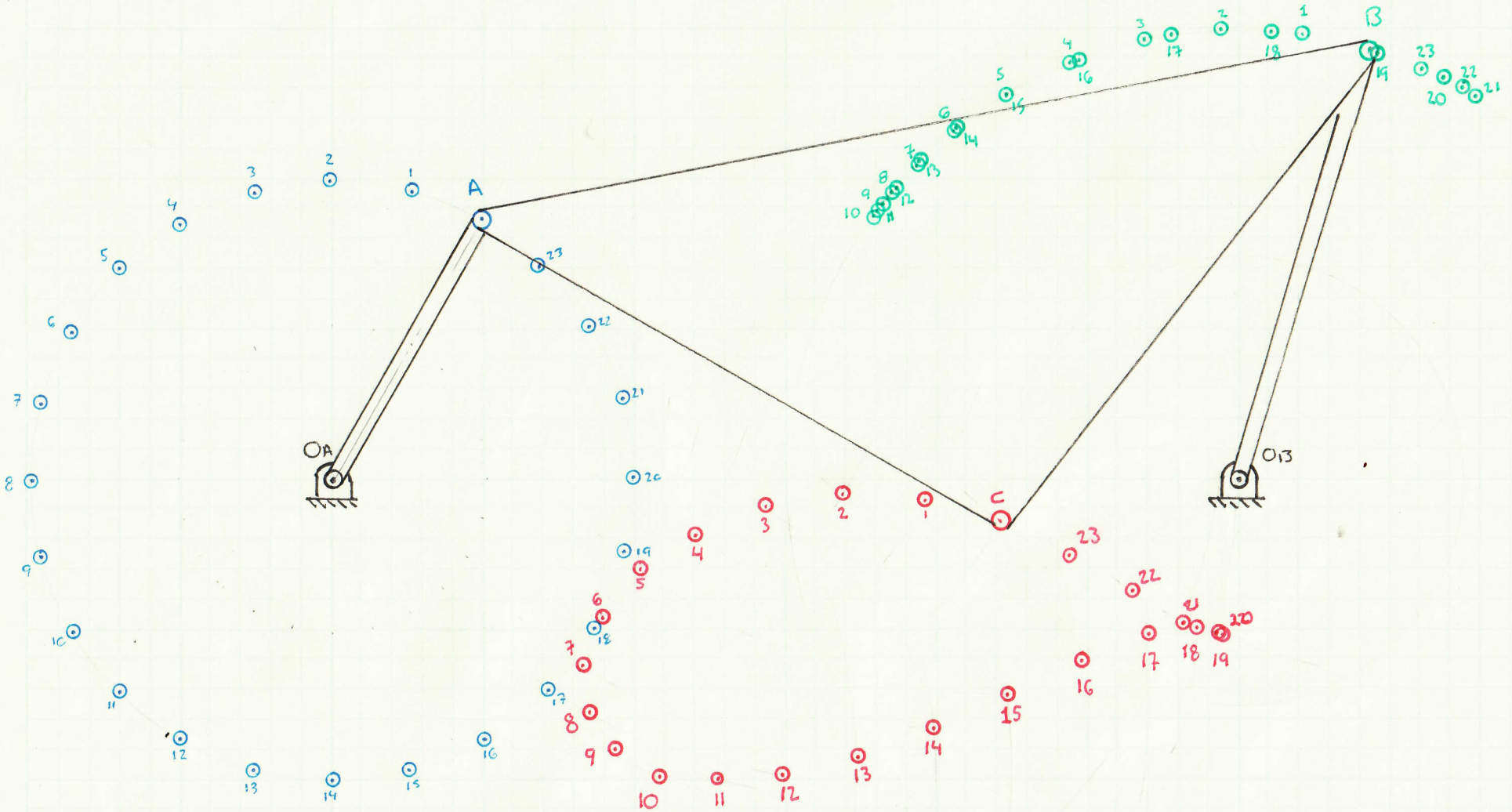
GIVEN:
1. 4-BAR LINKAGE WITH A 3 NODE COUPLER LINK, SHOWN BELOW
2. DRIVE LINK GOING THROUGH 15° INCREMENTS OF ROTATION
3. THE INITIAL ANGLE OF THE DRIVE LINK WITH RESPECT TO THE POSITIVE HORIZONTAL IS 60°
4. O_AA = 1.0, AB = 3.0, O_BB = 1.5, O_AO_B = 3.0, AC = BC = 2.0

ASSUMPTIONS:
1. ALL LINKS ARE RIGID
2. THE MOTION OF ALL LINKS ARE PLANAR
3. ALL JOINTS ARE FRICTIONLESS
4. THE LINKS DO NOT INTERFER WITH EACHOTHER DURING THE ROTATION.

FIND:
1. THE POSITION OF POINT C FOR EACH 15° ROTATION OF THE DRIVE LINK

FIGURE:





Summary: THE LOCATION OF "A" IS NUMBERED IN BLUE, "B" IN GREEN, AND "C" IN RED SO THAT THE LOCATIONS OF "A" & "B" FOR CORRESPONDING POSITIONS OF "C" CAN EASILY BE SEEN. AS "A" ROTATES AT A CONSTANT RATE, INDICATED BY EQUAL CIRCUMFERENTIAL SPACING, POINTS "B" AND "C" SPEED UP AND SLOW DOWN, INDICATED BY THE UNEQUAL SPACING OF THE POINTS ON THE PATHS TAKEN BY "B" AND "C".