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## REVOLUTIONS

| PROBLEMS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 38 | 39 | 40 | 41 | 42 | 43 |
|  |  |  |  |  |  |

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## REVOLUTIONS - GENERAL IDEAS

1. Object - $P$
2. Axis of revolution - axis
3. Plane of revolution - $\varepsilon$ $\varepsilon \supset \mathbf{P}$ and $\varepsilon \perp$ axis
4. Center of revolution - $S$ $S=\boldsymbol{\varepsilon} \cap$ axis
5. Radius of revolution - $r$ $r=P S$
6. Object's trajectory - t


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$\qquad$
38. Revolve segment $C D$, which represents a line supporting a yacht mast $\mathbf{n}$, to obtain its true length.

39. Determine the possible angle of revolution of lever KL around line $\boldsymbol{m}$ knowing that it may move between planes $\boldsymbol{\alpha}$ and $\boldsymbol{\beta}$.


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40. Point $\mathbf{A}$ is revolved around line $\mathbf{p}$. Find points $\mathbf{A}_{\mathbf{0 1}}$ and $\mathbf{A}_{\mathbf{0 2}}$, where the trajectory of point $\mathbf{A}$ intersects with $\boldsymbol{\pi}_{1}$ projection plane. Find also points $\mathbf{A}_{03}$ and $\mathbf{A}_{04}$ where point $\mathbf{A}$ will be in the furthest distance from $\pi_{1}$ and $\pi_{2}$ projection planes.

41. Revolve cover EFG around line $\mathbf{p}$ until it touches $\boldsymbol{\pi}_{1}$ projection plane. Assume that $\mathbf{p} \in \boldsymbol{\alpha}(\mathbf{E}, \mathbf{F}, \mathrm{G})$.


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42. Find the placement of the edge of engine blade $\mathbf{A B}$ after the engine shaft $f$ revolution about $60^{\circ}$. Shaft revolves clockwise.


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43. Revolve the triangle $\mathbf{A B C}$ around the line $\mathbf{n}$ so that, after revolution, it is parallel to the plane $\boldsymbol{\alpha}$. Select one solution.


