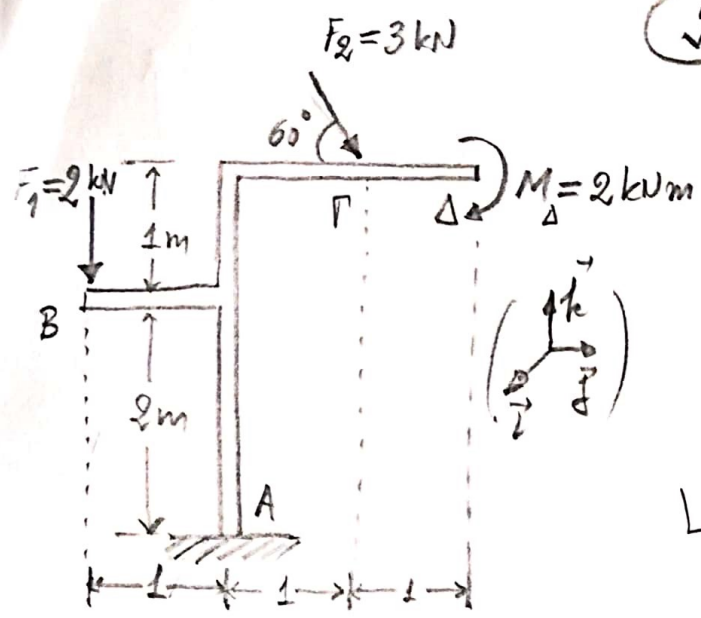


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Na jira avajunji ero antjo's orpo dvaroi' vuvmpa' burajivuv



$$S_1 = \{(\vec{F}_1, B), (\vec{F}_2, D), \vec{M}_A\}$$

1<sup>ya</sup> Avajunji ero A

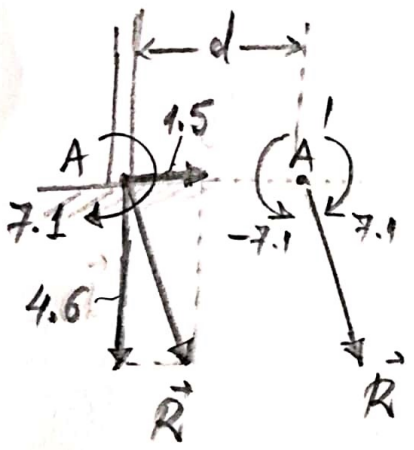
$$\vec{R} = \vec{F}_1 + \vec{F}_2 = -2\vec{k} + 3\cos 60^\circ \vec{j} - 3\sin 60^\circ \vec{k} = \frac{3}{2}\vec{j} - \frac{4+3\sqrt{3}}{2}\vec{k} = 1.5\vec{j} - 4.6\vec{k} \text{ kN}$$

$$\vec{M}_A = (-M_D + 1 \cdot F_1 - 3 \cdot \frac{F_2 \cos 60^\circ}{2} - 1 \cdot \frac{F_2 \sin 60^\circ}{2}) \vec{i} = (-2 + 2 - \frac{3}{2} \cdot 3 - \frac{\sqrt{3}}{2} \cdot 3) \vec{i} = -3 \frac{3+\sqrt{3}}{2} \vec{i} = -7.1 \vec{i} \text{ kNm}$$

Evidni' vprovandu'  $\vec{R} \perp \vec{M}_A$ , to vuvmpa'  $\mu$  doperi' va avaxda' ero antjo's orpo dvaroi', dnt. pias' pias'  $\vec{R}$  si ita outp'is, to odoto vdu'kvtou ee dprovajivuv!

a) Ene xwpis' dvan'opara, v'zoi:

Pr'edec:  $d \cdot 4.6 = 7.1 \Rightarrow \underline{d = 1.54 \text{ m}}$



b) Eitce' avdi' va dvan'oparoi' (j'viva!)

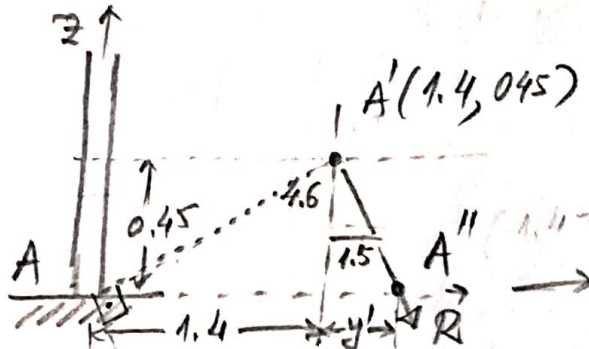
oxon: (del. 4)  $\vec{AA}' = \frac{\vec{R} \times \vec{M}_A}{R^2}$

$$R^2 = 1.5^2 + 4.6^2 = 23.41$$

$$\vec{R} \times \vec{M}_A = (1.5\vec{j} - 4.6\vec{k}) \times (-7.1\vec{i}) = +10.65\vec{k} + 32.66\vec{j}$$

$$\Rightarrow \vec{AA}' = 1.4\vec{j} + 0.45\vec{k}$$

$$\frac{y'}{0.45} = \frac{1.5}{4.6} \Rightarrow y' = 0.14$$



0w57f

$$AA'' = 1.4 + 0.14 = \underline{1.54 = d}$$