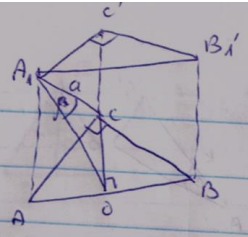
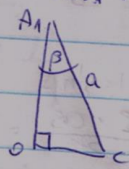


3.65
6



מכיוון שיש משולש $A_1 C O$
 שבו $OC \perp AB$ ו- $OC \perp CO$
 (אם $OC \perp AB$ ו- $OC \perp CO$ אז $OC \perp$ המישור ABC)



משולש $A_1 C O$
 שבו $OC \perp AB$ ו- $OC \perp CO$
 אז $OC \perp$ המישור ABC

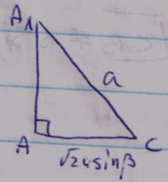
$$S_{ABC} = \frac{AB \cdot CO}{2} = \frac{AC \cdot CB}{2}$$

$$AB \cdot a \sin \beta = AC^2$$

$$AB^2 = AC^2 + BC^2 = 2AC^2 \rightarrow \sqrt{2} AC \cdot a \sin \beta = AC^2$$

$$AC = \frac{\sqrt{2} a \sin \beta}{\sqrt{2}}$$

$\triangle A_1 A C$:



$$A_1 A = \sqrt{a^2 - 2a^2 \sin^2 \beta} = a \sqrt{1 - 2 \sin^2 \beta}$$

$$V = \frac{1}{3} \cdot \text{שטח בסיס} \cdot \text{גובה} = \frac{2a^2 \sin^2 \beta}{2} \cdot a \sqrt{1 - 2 \sin^2 \beta} = a^3 \sin^2 \beta \sqrt{1 - 2 \sin^2 \beta}$$

$$= a^3 \sin^2 \beta \sqrt{\cos 2\beta}$$