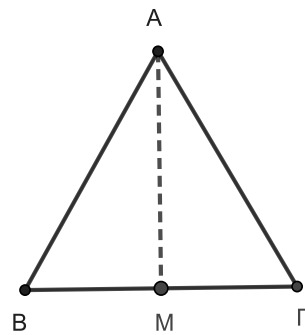


ΛΥΣΗ

α)



i. $\widehat{(\overrightarrow{AB}, \overrightarrow{AG})} = 60^\circ$.

ii. $\widehat{(\overrightarrow{AM}, \overrightarrow{BG})} = 90^\circ$.

iii. $\widehat{(\overrightarrow{GM}, \overrightarrow{GB})} = 0^\circ$.

β) Τα μέτρα των διανυσμάτων $\overrightarrow{AB}$, $\overrightarrow{AG}$ και $\overrightarrow{BG}$ είναι 10 αφού το τρίγωνο είναι ισόπλευρο.

i. $\overrightarrow{AB} \cdot \overrightarrow{AG} = |\overrightarrow{AB}| |\overrightarrow{AG}| \cos \widehat{(\overrightarrow{AB}, \overrightarrow{AG})} = 10 \cdot 10 \cdot \cos 60^\circ = 100 \cdot \frac{1}{2} = 50$

ii. $\overrightarrow{AM} \cdot \overrightarrow{BG} = |\overrightarrow{AM}| |\overrightarrow{BG}| \cos \widehat{(\overrightarrow{AM}, \overrightarrow{BG})} = |\overrightarrow{AM}| |\overrightarrow{BG}| \cdot \cos 90^\circ = |\overrightarrow{AM}| |\overrightarrow{BG}| \cdot 0 = 0$

iii. $\overrightarrow{GM} \cdot \overrightarrow{GB} = |\overrightarrow{GM}| |\overrightarrow{GB}| \cos \widehat{(\overrightarrow{GM}, \overrightarrow{GB})} = 5 \cdot 10 \cdot \cos 0^\circ = 5 \cdot 10 \cdot 1 = 50$.