

3.17 1)

$$\begin{aligned}
3\overrightarrow{AB} + 2\overrightarrow{AG} &= 3\overrightarrow{AD} + 2\overrightarrow{AE} \Rightarrow 3\overrightarrow{AB} - 3\overrightarrow{AD} = 2\overrightarrow{AE} - 2\overrightarrow{AG} \Rightarrow \\
\Rightarrow 3(\overrightarrow{AB} - \overrightarrow{AD}) &= 2(\overrightarrow{AE} - \overrightarrow{AG}) \Rightarrow \\
\Rightarrow 3\overrightarrow{DB} &= 2\overrightarrow{GE} \Rightarrow \overrightarrow{DB} = \frac{2}{3}\overrightarrow{GE} \Rightarrow DB // GE
\end{aligned}$$

3.17 2)

$$\begin{aligned}
5\overrightarrow{OA} + 3\overrightarrow{OG} &= 5\overrightarrow{OB} + 3\overrightarrow{OD} \Rightarrow \\
\Rightarrow 5\overrightarrow{OA} - 5\overrightarrow{OB} &= 3\overrightarrow{OD} - 3\overrightarrow{OG} \Rightarrow \\
\Rightarrow 5(\overrightarrow{OA} - \overrightarrow{OB}) &= 3(\overrightarrow{OD} - \overrightarrow{OG}) \Rightarrow \\
\Rightarrow 5\overrightarrow{BA} &= 3\overrightarrow{GD} \Rightarrow \\
\Rightarrow \overrightarrow{BA} &= \frac{3}{5}\overrightarrow{GD} \Rightarrow \\
\Rightarrow AB // GD
\end{aligned}$$

3.17 3)

Είναι

$$\begin{aligned}
\overrightarrow{AG} &= \overrightarrow{AB} + \overrightarrow{BG} \Rightarrow \overrightarrow{AG} = \overrightarrow{KL} + 3\overrightarrow{LM} + \overrightarrow{KL} - \overrightarrow{LM} \Rightarrow \\
\Rightarrow \overrightarrow{AG} &= 2\overrightarrow{KL} + 2\overrightarrow{LM} \Rightarrow \\
\Rightarrow \overrightarrow{AG} &= 2(\overrightarrow{KL} + \overrightarrow{LM}) \Rightarrow \\
\Rightarrow \overrightarrow{AG} &= 2\overrightarrow{KM} \\
\Rightarrow AG &= KM
\end{aligned}$$