$$\varepsilon \leqslant 8d \sqrt[2d]{\frac{\delta}{2}} \Leftrightarrow \varepsilon \leqslant 8d(\sqrt[2d]{\frac{2}{\delta}})^{-1} \Leftrightarrow \varepsilon \leqslant 8d2^{-\frac{1}{2d}\log(\frac{2}{\delta})} \Leftrightarrow 2^{\frac{1}{2d}\log(\frac{2}{\delta})} \geqslant \frac{8d}{\varepsilon} \Leftrightarrow \frac{1}{2d}\log(\frac{2}{\delta}) \geqslant \log(\frac{8d}{\varepsilon})$$

$\Leftrightarrow \frac{4}{\varepsilon}\log\frac{2}{\delta} \leqslant \frac{8d}{\varepsilon}\log\frac{8d}{\varepsilon}$

Then $|A| = \frac{8d}{\varepsilon}\log\frac{8d}{\varepsilon} = max(\frac{4}{\varepsilon}\log\frac{2}{\delta},\ \frac{8d}{\varepsilon}\log\frac{8d}{\varepsilon})$. Therefore, according to theorem **??**, $\mathbb{P}(A \text{ is a } \varepsilon\text{-net}) \geqslant 1-\delta$.

Let's denote the element of A by $a_1, a_2, ..., a_{|A|}$. The probability that A is a subset of $MIS(G)$ is $P_A(\varepsilon)$.

$P_A(\varepsilon) = \mathbb{P}(\forall a \in A,\ a \in MIS(G)) = \prod_{i=1}^{|A|}\mathbb{P}(a_i \in MIS(G)) = \prod_{i=1}^{|A|}\frac{|V(G)|.c}{|V(G)|} \geqslant c^{|A|}$.

Therefore the probability that A verify all the condition is $\mathbb{P}(A \subseteq MIS(G))\mathbb{P}(A \text{ is a } \varepsilon\text{-net}) \geqslant (1-\delta)c^{f(\frac{1}{\varepsilon})}$.