Soluție

1. $b_3^2 = 6 \cdot 24 \Rightarrow b_3 = 12 \; q = \frac{b_3}{b_2} = 2 \Rightarrow \; b_1 = 3$.

2. $3 - m^2 > 0 \Rightarrow m \in \left(-\sqrt{3}; \sqrt{3}\right)$.

3. $\sin\frac{\pi}{3} = \frac{\sqrt{3}}{2}, \sin\frac{2\pi}{3} = \frac{\sqrt{3}}{2} \Rightarrow \sin\frac{3\pi}{3} = 0, \sin\frac{4\pi}{3} = -\frac{\sqrt{3}}{2}$,

$\sin\frac{\pi}{3} + \sin\frac{2\pi}{3} + \sin\frac{3\pi}{3} + \sin\frac{4\pi}{3} = \frac{\sqrt{3}}{2}$.

4. Numărul cazurilor posibile este: 3^3. Numărul cazurilor favorabile este $3! = 6 \Rightarrow p = \frac{2}{9}$.

5. $\frac{GP}{AB} = \frac{1}{3}, \overrightarrow{GP} = \frac{1}{3}\overrightarrow{AB} \Rightarrow m = \frac{1}{3}$.

6. $\cos 2\alpha = 2\cos^2\alpha - 1 \Rightarrow \cos 2\alpha = \frac{-7}{9}$.