

Rings – 1 round

5v5

$$e^{-5i\gamma} (\cos^5(\beta) + i \sin^5(\beta)) + e^{3i\gamma} (-5 \sin^2(\beta) \cos^3(\beta) - 5i \sin^3(\beta) \cos^2(\beta)) \\ + e^{-i\gamma} (5i \sin(\beta) \cos^4(\beta) - 5 \sin^2(\beta) \cos^3(\beta) - 5i \sin^3(\beta) \cos^2(\beta) + 5 \sin^4(\beta) \cos(\beta))$$

$$p = 0.4105035493177127$$

5v4 1

$$e^{-5i\gamma} (\sin^4(\beta) \cos(\beta) + i \sin(\beta) \cos^4(\beta)) \\ + e^{3i\gamma} (2i \sin(\beta) \cos^4(\beta) - 3 \sin^2(\beta) \cos^3(\beta) - 3i \sin^3(\beta) \cos^2(\beta) + 2 \sin^4(\beta) \cos(\beta)) \\ + e^{-i\gamma} (i \sin^5(\beta) + \cos^5(\beta) + 2i \sin(\beta) \cos^4(\beta) - 7 \sin^2(\beta) \cos^3(\beta) - 7i \sin^3(\beta) \cos^2(\beta) + 2 \sin^4(\beta) \cos(\beta))$$

$$p = 0.3985485156786475$$

5v3 2

$$e^{-5i\gamma} (-\sin^2(\beta) \cos^3(\beta) - i \sin^3(\beta) \cos^2(\beta)) \\ + e^{3i\gamma} (i \sin(\beta) \cos^4(\beta) - 4 \sin^2(\beta) \cos^3(\beta) - 4i \sin^3(\beta) \cos^2(\beta) + \sin^4(\beta) \cos(\beta)) \\ + e^{-i\gamma} (i \sin^5(\beta) + \cos^5(\beta) + 4i \sin(\beta) \cos^4(\beta) - 5 \sin^2(\beta) \cos^3(\beta) - 5i \sin^3(\beta) \cos^2(\beta) + 4 \sin^4(\beta) \cos(\beta))$$

$$p = 0.5150158139390923$$

5v2 1 1 1

$$e^{-5i\gamma} (-\sin^2(\beta) \cos^3(\beta) - i \sin^3(\beta) \cos^2(\beta)) \\ + e^{-i\gamma} (3i \sin(\beta) \cos^4(\beta) - 7 \sin^2(\beta) \cos^3(\beta) - 7i \sin^3(\beta) \cos^2(\beta) + 3 \sin^4(\beta) \cos(\beta)) \\ + e^{3i\gamma} (i \sin^5(\beta) + \cos^5(\beta) + 2i \sin(\beta) \cos^4(\beta) - 2 \sin^2(\beta) \cos^3(\beta) - 2i \sin^3(\beta) \cos^2(\beta) + 2 \sin^4(\beta) \cos(\beta))$$

$$p = 0.8789062500000002$$