

Problem (1.25).

$$\frac{1}{2} +_1 \frac{7}{8} = \frac{4}{8} +_1 \frac{7}{8} = \frac{3}{8}.$$

Problem (1.26).

$$\frac{3\pi}{4} +_{2\pi} \frac{3\pi}{2} = \frac{3\pi}{4} +_{2\pi} \frac{6\pi}{4} = \frac{\pi}{4}.$$

Problem (1.31).

Problem (1.35).

Problem (1.37). Because $\zeta \leftrightarrow 4$ implies that $\zeta \times \zeta \leftrightarrow 4 +_8 4 = 0$, and $\zeta \times \zeta \times \zeta \leftrightarrow 4 +_8 4 +_8 4 = 4$. And since isomorphism requires an one-to-one mapping between U_6 and \mathbb{R}_6 , yet both ζ and ζ^3 map to 4, the mapping cannot be one-to-one and therefore isomorphism doesn't exist.