10. \( \mathbb{Z} \cong 17 \mathbb{Z} \cong 3 \mathbb{Z} \cong \langle \pi \rangle \)
\( \mathbb{Z}_2 \cong S_2 \)
\( \mathbb{Z}_6 \cong \langle 3, 5 \rangle \subseteq \langle 3, 5, 1, 2 \rangle \)
\( (\mathbb{R}, +) \cong \langle \mathbb{R}^+, \cdot \rangle \)
Others are not equi-isomorphic.

Note: Most cases can be ruled out by considering the cardinality for \((\mathbb{Q}, +) \neq (\mathbb{Z}, +)\). Consider even \( x \cdot x = a \).
\((\mathbb{R}^+, \cdot) \neq (\mathbb{R}^+, \cdot)\). Consider even \( x \cdot x = e \).
\((\mathbb{Q}^+, \cdot) \neq (\mathbb{Q}^+, \cdot)\). Consider. \( x \cdot x = e \).
\((\mathbb{Q}^+, \cdot) \neq (\mathbb{Z}, +)\). \( \mathbb{Q}^+ \) is not cyclic.

16. \( 3! = 6. \)
\( \{ 0 \in S_4 | o(3) = 3 \} = S_{3\{1, 2, 4\}} \)

17. \( 4! = 24. \)
\( o \in S_5, o(1) = 3 \Rightarrow o(1), o(2), o(3), o(4), o(5) \) is a permutation of \( \{1, 2, 3, 4\} \)

24. \( \mathbb{Z}_4, V_4 \)
\( e = \text{identity} \)
\( a = \text{rotating } 180^\circ \).
\( b = \text{reflection along the vertical line} \)
\( c = ab \).

40. \( \{ o \in S_4 | o(1) = b \} = S_4 \backslash S_3 \). It is a subgroup.

41. \( \{ o \in S_5 | o(1) = b \} \) It may not be closed. Not always a subgroup.

46. Since \( S_3 \) is non-abelian, and \( S_n (n \geq 3) \) contains \( S_3 \) as a subgroup. \( S_n \) \( S_3 \) is not abelian for \( n \geq 3 \).