Proof by mathematical induction-deduction based on my definition

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Abstract
In this chapter, I will explain a new method of proof, which is both mathematical induction and deduction at the same time, based on my definition series, with concrete examples.

General comments
The examples used in this study are as follows.

\[
\left(-1\right)\left(\frac{P_{n} - 1}{24}\right) = \left(-1\right)\left(\frac{P_{n} - 1}{2}\right) \left(\frac{5}{2}\right) = \left(-1\right) \left(\frac{5}{4}\right) = \left(-1\right) \left(\frac{5(-1)^{2}}{4}\right) = -1
\]

\[
\therefore \left(-1\right)\left(\frac{P_{n} - 1}{24}\right) = \left(-1\right)\left(\frac{5}{4}\right) = (-1)^{2} \quad \ldots (1)
\]

Proof

\[
\left(-1\right)\left(\frac{P_{n} - 1}{24}\right) = \left(-1\right)\left(\frac{5^{2} - 1}{24}\right) = -1
\]

\[
\left(-1\right)\left(\frac{P_{n} - 1}{4}\right) = \left(-1\right)\left(\frac{5(-1)^{3}}{4}\right) = \left(-1\right)\left(\frac{(5(-1)^{2}}{4}\right) = -1
\]

\[
\therefore \left(-1\right)\left(\frac{P_{n} - 1}{24}\right) = \left(-1\right)\left(\frac{5}{4}\right) = (-1)^{2} \quad \ldots (B)
\]

\[
\left(-1\right)\left(\frac{P_{n} - 1}{24}\right) = \left(-1\right)\left(\frac{5^{2} - 1}{24}\right) = (-1)^{3} = 1
\]

\[
\left(-1\right)\left(\frac{P_{n} - 1}{4}\right) = \left(-1\right)\left(\frac{5(-1)^{3}}{4}\right) = \left(-1\right)\left(\frac{7(-1)^{4}}{4}\right) = \left(-1\right)\left(\frac{7(-1)^{4}}{4}\right) = (-1)^{2}
\]

\[
\therefore \left(-1\right)\left(\frac{P_{n} - 1}{24}\right) = \left(-1\right)\left(\frac{5}{4}\right) = (-1)^{2} \quad \ldots (C)
\]

\[
\left(-1\right)\left(\frac{P_{n} - 1}{24}\right) = \left(-1\right)\left(\frac{3^{2} - 1}{24}\right) = \left(-1\right)\left(\frac{3}{4}\right) = -1
\]

\[
\left(-1\right)\left(\frac{P_{n} - 1}{4}\right) = \left(-1\right)\left(\frac{3(-1)^{3}}{4}\right) = \left(-1\right)\left(\frac{3(-1)^{4}}{4}\right) = -1
\]

\[
\therefore \left(-1\right)\left(\frac{P_{n} - 1}{24}\right) = \left(-1\right)\left(\frac{3}{4}\right) = (-1)^{2} \quad \ldots (A)
\]

The above shows that it holds for \( n = \infty \) and also holds for \( n = \infty + 1 \), which means that it also holds for \( n = 2 \).

Therefore, the equality (1) is proved to be correct.