

# Personal Skills 1

**Remainder and the quotient of polynomials is n, when  $n \in \mathbb{I}^+$  and  $n \geq 1$**

Learning outcomes Find the n root of a complex number when  $n \in \mathbb{I}^+$ , and Solve polynomial equations of one variable with integer coefficients of degree less than or equal to three.

Intended destination Find a remainder and quotient of the polynomial is n, when  $n \in \mathbb{I}^+$  and  $n \geq 1$  this is the only polynomial coefficients are positive integers.

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Find the quotient and the remainder from dividing the polynomial.

Example  $(2x^3 - 3x^2 + 4x - 9) \div (x-2)$

Solution  $f(x) = 2x^3 - 3x^2 + 4x - 9$

$$\begin{array}{r}
 x-c = x-2 \quad \therefore c = 2 \\
 2 \quad \left| \begin{array}{rrrr}
 2 & -3 & 4 & -9 \\
 & 4 & 2 & 12 \\
 \hline
 2 & 1 & 6 & 3
 \end{array} \right. +
 \end{array}$$

Quotient  $2x^2+x+6$       Remainder 3



| No | Problem                        | Quotient   | Remainder |
|----|--------------------------------|------------|-----------|
| 1  | $(x^3+3x^2+1) \div (x-1)$      | $x^2+4x+4$ | 5         |
| 2  | $(x^4+1) \div (x+1)$           |            |           |
| 3  | $(2x^6+3x^2+7) \div (2x-1)$    |            |           |
| 4  | $(2x^4-3x^2+5x+1) \div (2x+3)$ |            |           |
| 5  | $(x^3+3ix^2+3x-1) \div (x-i)$  |            |           |

Find the quotient and the remainder by using the theory of algorithms divide or dividing the true synthesis.



Summary score

Score 8 points made ..... points

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