

## 整式のわり算 (その4)

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$$2x^2 \times \phantom{2x} = 4x^3 \text{ を考える}$$

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The image shows a long division of polynomials. The divisor is  $2x^2 - x - 3$  and the dividend is  $4x^3 - 6x^2 + 7$ . The quotient  $2x$  is written above the horizontal line and is highlighted in yellow. The division is currently at the step where the first two terms of the dividend are being processed.

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$$2x(2x^2 - x - 3) = 4x^3 - 2x^2 - 6x \quad \text{となるので}$$

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$$\begin{array}{r} 2x \\ \hline 2x^2 - x - 3 \overline{) 4x^3 - 6x^2 \phantom{- 6x} + 7} \\ \underline{4x^3 - 2x^2 - 6x} \phantom{+ 7} \\ \phantom{4x^3 - 2x^2 - 6x} + 7 \end{array}$$

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ひき算

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$$\begin{array}{r} 2x \\ \hline 2x^2 - x - 3 \ ) \ 4x^3 - 6x^2 \qquad \qquad + 7 \\ \underline{-4x^3 \quad + 2x^2 \quad + 6x} \\ \hline \end{array}$$

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$$\begin{array}{r} 2x \\ \hline 2x^2 - x - 3 \ ) \ 4x^3 - 6x^2 \quad + 7 \\ \quad - 4x^3 \quad + 2x^2 \quad + 6x \quad \text{そのまま} \\ \quad \quad \quad \hline \quad \quad \quad -4x^2 + 6x \quad + 7 \end{array}$$

# 整式のわり算 (その4)

$$\begin{array}{r} 2x^2 - x - 3 \ ) \ 4x^3 - 6x^2 + 7 \\ \underline{-4x^3 + 2x^2 + 6x} \phantom{+ 7} \\ -4x^2 + 6x + 7 \end{array}$$

$$2x^2 \times \quad = -4x^2 \text{ を考える}$$

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$$2x^2 \times -2 = -4x^2 \text{ を考える}$$

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$$\begin{array}{r} 2x \quad \mathbf{-2} \\ \hline 2x^2 - x - 3 \ ) \ 4x^3 - 6x^2 \quad \quad + 7 \\ \underline{-4x^3 \quad \mathbf{+} \ 2x^2 \quad \mathbf{+} \ 6x} \\ \quad \quad \quad -4x^2 + 6x + 7 \end{array}$$

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$$\begin{array}{r} 2x \quad -2 \\ \hline 2x^2 - x - 3 \ ) \ 4x^3 - 6x^2 \quad + 7 \\ \underline{-4x^3 \quad + 2x^2 \quad + 6x} \\ -4x^2 + 6x + 7 \end{array}$$

$$-2(2x^2 - x - 3) = -4x^2 + 2x + 6 \text{ となるので}$$



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$$\begin{array}{r} 2x \quad -2 \\ \hline 2x^2 - x - 3 \ ) \ 4x^3 - 6x^2 \quad + 7 \\ \underline{-4x^3 \quad + 2x^2 \quad + 6x} \\ \phantom{2x^2 - x - 3 \ )} -4x^2 + 6x + 7 \\ \phantom{2x^2 - x - 3 \ )} \underline{-4x^2 + 2x + 6} \end{array}$$

$-2(2x^2 - x - 3) = -4x^2 + 2x + 6$  となるので

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$$\begin{array}{r} 2x \quad -2 \\ \hline 2x^2 - x - 3 \ ) \ 4x^3 - 6x^2 \quad \quad + 7 \\ \quad - 4x^3 \quad \neq 2x^2 \quad \neq 6x \\ \quad \quad \quad \hline \quad \quad \quad -4x^2 + 6x + 7 \\ \quad \quad \quad -4x^2 + 2x + 6 \\ \quad \quad \quad \quad \quad \quad \hline \end{array}$$

# 整式のわり算 (その4)

$$\begin{array}{r} 2x^2 - x - 3 \overline{) 4x^3 - 6x^2 + 7} \\ \underline{-4x^3 + 2x^2 + 6x} \phantom{+ 7} \\ -4x^2 + 6x + 7 \\ \underline{-4x^2 + 2x + 6} \\ \phantom{-4x^2} + 4x + 1 \end{array}$$

ひき算

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$$\begin{array}{r} 2x^2 - x - 3 \overline{) 4x^3 - 6x^2 \phantom{+ 6x} + 7} \\ \underline{-4x^3 \quad \color{red}{+} 2x^2 \quad \color{red}{+} 6x} \phantom{+ 7} \\ \phantom{4x^3 - } -4x^2 + 6x + 7 \\ \color{red}{\text{ひき算}} \quad \underline{\color{red}{+} 4x^2 \quad \color{red}{+} 2x \quad \color{red}{+} 6} \\ \phantom{4x^3 - } \phantom{-4x^2 + } 8x + 7 \end{array}$$

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$$\begin{array}{r} 2x^2 - x - 3 \overline{) 4x^3 - 6x^2 + 7} \\ \underline{-4x^3 + 2x^2 + 6x} \phantom{+ 7} \\ -4x^2 + 6x + 7 \\ \underline{+4x^2 - 2x - 6} \\ 4x + 1 \end{array}$$

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商  $2x - 2$  , あまり  $4x + 1$