

教科書 16ページ

(練習10) (解) 割る式が  $x^2 - x + 1$ , 割られる式が  $A$

$$\begin{aligned} A &= (x^2 - x + 1)(x - 2) + 3x - 2 \\ &= x^3 - 3x^2 + 3x - 2 + 3x - 2 \\ &= x^3 - 3x^2 + 6x - 4 \end{aligned} \quad (\text{答}) \quad A = x^3 - 3x^2 + 6x - 4$$

(練習11) (解) 与えられた条件から

$$3x^3 + 7x^2 - x - 5 = B \times (3x - 2) + (2x - 3)$$

よって

$$3x^3 + 7x^2 - x - 5 - (2x - 3) = B \times (3x - 2)$$

$$3x^3 + 7x^2 - x - 5 - 2x + 3 = B \times (3x - 2)$$

$$3x^3 + 7x^2 - 3x - 2 = B(3x - 2)$$

ゆえに

$$\begin{aligned} B &= (3x^3 + 7x^2 - 3x - 2) \div (3x - 2) \\ &= x^2 + 3x + 1 \end{aligned}$$

$$\begin{array}{r} x^2 + 3x + 1 \\ 3x - 2 \overline{) 3x^3 + 7x^2 - 3x - 2} \\ \underline{3x^3 - 2x^2} \phantom{- 2} \\ 9x^2 - 3x \phantom{- 2} \\ \underline{9x^2 - 6x} \phantom{- 2} \\ 3x - 2 \\ \underline{3x - 2} \\ 0 \end{array}$$

(答)  $B = x^2 + 3x + 1$

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

(2) 
$$\begin{array}{r} 3x + 2 \\ x^2 + x - 2 \overline{) 3x^3 + 5x^2 - x - 4} \\ \underline{3x^3 + 3x^2 - 6x} \phantom{- 4} \\ 2x^2 + 5x - 4 \\ \underline{2x^2 + 2x - 4} \\ 3x \end{array}$$
 商  $3x + 2$  余り  $3x$

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

5 (解) 与えられた条件から

$$3x^3 - 4x^2 + 1 = B \times (3x + 2) + (-2x - 3)$$

よって

$$3x^3 - 4x^2 + 1 - (-2x - 3) = B \times (3x + 2)$$

$$3x^3 - 4x^2 + 1 + 2x + 3 = B \times (3x + 2)$$

$$3x^3 - 4x^2 + 2x + 4 = B(3x + 2)$$

ゆえに

$$B = (3x^3 - 4x^2 + 2x + 4) \div (3x + 2)$$

$$= x^2 - 2x + 2$$

$$\begin{array}{r} x^2 - 2x + 2 \\ 3x + 2 \overline{) 3x^3 - 4x^2 + 2x + 4} \\ \underline{3x^3 + 2x^2} \phantom{+ 2x + 4} \\ -6x^2 + 2x \phantom{+ 4} \\ \underline{-6x^2 - 4x} \phantom{+ 4} \\ 6x + 4 \\ \underline{6x + 4} \\ 0 \end{array}$$

(答)  $B = x^2 - 2x + 2$