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次の式を因数分解しなさい。

$$\begin{aligned}
 (1) \quad & a^2 - 3a + ab - b + 2 && a \Rightarrow 2\text{次} \\
 & && b \Rightarrow 1\text{次} \\
 & = \underline{ab - b} + \underline{a^2 - 3a + 2} \\
 & = b(a - 1) + (a - 2)(a - 1) \\
 & = bA + (a - 2)A \\
 & = A\{b + (a - 2)\} \\
 & = (a - 1)(b + a - 2)
 \end{aligned}$$

$$\begin{aligned}
 (2) \quad & xy - x^2 - 3x - 2y + 10 && x \Rightarrow 2\text{次} \\
 & && y \Rightarrow 1\text{次} \\
 & = xy - 2y - x^2 - 3x + 10 \\
 & = \underline{xy - 2y} - \underline{(x^2 + 3x - 10)} \\
 & = y(x - 2) - (x + 5)(x - 2) \\
 & = yA - (x + 5)A \\
 & = A\{y - (x + 5)\} \\
 & = (x - 2)(y - x - 5)
 \end{aligned}$$

$$\begin{aligned}
 (3) \quad & y^3 - yz - x^2y + xz && x \Rightarrow 2\text{次} \\
 & && y \Rightarrow 3\text{次} \\
 & && z \Rightarrow 1\text{次} \\
 & = \underline{xz - yz} - \underline{x^2y + y^3} \\
 & = z(x - y) - y(x^2 - y^2) \\
 & = z(x - y) - y(x + y)(x - y) \\
 & = zA - y(x + y)A \\
 & = A\{z - y(x + y)\} \\
 & = (x - y)(z - xy - y^2)
 \end{aligned}$$

$$\begin{aligned}
 (4) \quad & a^2(b - c) - b^2(c + a) + c^2(b - a) + 2abc && \text{次数同じ} \\
 & && a \text{に着目} \\
 & = a^2(b - c) - b^2c - ab^2 + bc^2 - c^2a + 2abc \\
 & = a^2(b - c) - \underline{ab^2 + 2abc - c^2a} - b^2c + bc^2 \\
 & = (b - c)a^2 - \underline{(b^2 - 2bc + c^2)}a - bc(b - c) \\
 & = (b - c)a^2 - (b - c)^2a - bc(b - c) \\
 & = Aa^2 - A(b - c)a - Abc \\
 & = A\{a^2 - (b - c)a - bc\}
 \end{aligned}$$

$$\begin{aligned}
 (5) \quad & x^2 + 3xy - 5x + 2y^2 - 7y + 6 && \text{次数同じ} \\
 & && x \text{に着目}
 \end{aligned}$$

$$\begin{aligned}
 & = x^2 + 3xy - 5x + \underline{2y^2 - 7y + 6} \text{ たすき掛け} \\
 & = \underline{x^2 + 3xy - 5x} + \underline{(2y - 3)(y - 2)} \\
 & = \{x + (2y - 3)\}\{x + (y - 2)\} \text{ たすき掛け} \\
 & = (x + 2y - 3)(x + y - 2)
 \end{aligned}$$

$$\begin{aligned}
 (6) \quad & 2x^2 + 11xy + 12y^2 - 5y - 2 && \text{次数同じ} \\
 & && x \text{に着目}
 \end{aligned}$$

$$\begin{aligned}
 & = 2x^2 + 11xy + \underline{12y^2 - 5y - 2} \text{ たすき掛け} \\
 & = \underline{2x^2 + 11xy} + \underline{(4y + 1)(3y - 2)} \\
 & = \{x + (4y + 1)\}\{2x + (3y - 2)\} \text{ たすき掛け} \\
 & = (x + 4y + 1)(2x + 3y - 2)
 \end{aligned}$$

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(1) $(a - 1)(a + b - 2)$	(2) $(x - 2)(y - x - 5)$
(3) $(x - y)(z - xy - y^2)$	(4) $(b - c)(a - b)(a + b)$
(5) $(x + 2y - 3)(x + y - 2)$	(6) $(x + 4y + 1)(2x + 3y - 2)$