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$$\begin{aligned}
 (1) & (a+b+5)(a-b-5) \\
 &= \left\{ a + \frac{(b+5)}{A} \right\} \left\{ a - \frac{(b+5)}{A} \right\} \\
 &= (a+A)(a-A) \\
 &= a^2 - A^2 \\
 &= a^2 - (b+5)^2 \\
 &= a^2 - (b^2 + 10b + 25) \\
 &= a^2 - b^2 - 10b - 25
 \end{aligned}$$

$$\begin{aligned}
 (2) & (x-y+8)(x+y-8) \\
 &= \left\{ x - \frac{(y-8)}{A} \right\} \left\{ x + \frac{(y-8)}{A} \right\} \\
 &= (x-A)(x+A) \\
 &= x^2 - A^2 \\
 &= x^2 - (y-8)^2 \\
 &= x^2 - (y^2 - 16y + 64) \\
 &= x^2 - y^2 + 16y - 64
 \end{aligned}$$

$$\begin{aligned}
 (3) & (2p+3q-1)(2p-3q-1) \\
 &= \left(\frac{2p-1}{A} + 3q \right) \left(\frac{2p-1}{A} - 3q \right) \\
 &= (A + 3q)(A - 3q) \\
 &= A^2 - 9q^2 \\
 &= (2p-1)^2 - 9q^2 \\
 &= 4p^2 - 4p + 1 - 9q^2
 \end{aligned}$$

$$\begin{aligned}
 (4) & (3x-2y+4)(3x+2y-4) \\
 &= \left\{ 3x - \frac{(2y-4)}{A} \right\} \left\{ 3x + \frac{(2y-4)}{A} \right\} \\
 &= (3x-A)(3x+A) \\
 &= 9x^2 - A^2 \\
 &= 9x^2 - (2y-4)^2 \\
 &= 9x^2 - (4y^2 - 16y + 16) \\
 &= 9x^2 - 4y^2 + 16y - 16
 \end{aligned}$$

$$\begin{aligned}
 (5) & (x+5y+7)(x-4y+7) \\
 &= \left(\frac{x+7}{A} + 5y \right) \left(\frac{x+7}{A} - 4y \right) \\
 &= (A + 5y)(A - 4y) \\
 &= A^2 + yA - 20y^2 \\
 &= (x+7)^2 + y(x+7) - 20y^2 \\
 &= x^2 + 14x + 49 + xy + 7y - 20y^2
 \end{aligned}$$

$$\begin{aligned}
 (6) & (2x+y-3)(x-y+3) \\
 &= \left\{ 2x + \frac{(y-3)}{A} \right\} \left\{ x - \frac{(y-3)}{A} \right\} \\
 &= (2x+A)(x-A) \leftarrow \text{分配法則} \\
 &= 2x^2 - 2xA + xA - A^2 \\
 &= 2x^2 - xA - (y-3)^2 \\
 &= 2x^2 - x(y-3) - (y^2 - 6y + 9) \\
 &= 2x^2 - xy + 3x - y^2 + 6y - 9
 \end{aligned}$$

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$$(1) \frac{(a+b+2)(a+b+3)}{A} - \frac{(a+b+5)(a+b)}{A}$$

$$= (A+2)(A+3) - (A+5)A$$

$$= A^2 + 5A + 6 - (A^2 + 5A)$$

$$= A^2 + 5A + 6 - A^2 - 5A$$

$$= 6$$

$$(2) (2x+y-z)^2 + (x+y-z)(x-y+z)$$

$$= \left\{ 2x + \frac{(y-z)}{A} \right\}^2 + \left\{ x + \frac{(y-z)}{A} \right\} \left\{ x - \frac{(y-z)}{A} \right\}$$

$$= (2x + A)^2 + (x + A)(x - A)$$

$$= 4x^2 + 4xA + A^2 + x^2 - A^2$$

$$= 5x^2 + 4xA$$

$$= 5x^2 + 4x(y-z)$$

$$= 5x^2 + 4xy - 4xz$$

$$(3) \frac{(2x+3y+5)(2x-y+5)}{A} + \frac{(2x+5y+5)(2x-7y+5)}{A}$$

$$= \frac{(2x+5+3y)(2x+5-y)}{A} + \frac{(2x+5+5y)(2x+5-7y)}{A}$$

$$= (A+3y)(A-y) + (A+5y)(A-7y)$$

$$= A^2 + 2yA - 3y^2 + A^2 - 2yA - 35y^2$$

$$= 2A^2 - 38y^2$$

$$= 2(2x+5)^2 - 38y^2$$

$$= 2(4x^2 + 20x + 25 - 38y^2)$$

$$= 8x^2 + 40x + 50 - 38y^2$$