

$$\begin{aligned}
 b. & (a+b)^2 + (a+2b)^2 - (a+3b)^2 \\
 &= a^2 + 2ab + b^2 + a^2 + 4ab + 4b^2 - (a^2 + 6ab + 9b^2) \\
 &= 2a^2 + 6ab + 5b^2 - a^2 - 6ab - 9b^2 \\
 &= \underline{a^2 - 4b^2} \rightarrow
 \end{aligned}$$

$$\begin{aligned}
 e. & -3(x-2)(x+7) - 2x^2(x-1)^2 \\
 &= -3[x^2 + 7x - 2x - 14] - 2x^2(x^2 - 2x + 1) \\
 &= -3x^2 - 15x + 42 - 2x^4 + 4x^3 - 2x^2 \\
 &= \underline{-2x^4 + 4x^3 - 5x^2 - 15x + 42} \rightarrow
 \end{aligned}$$

$$\begin{aligned}
 2a. & (3a-2d)(c^2-c+1) - (2c+d)(-2c^2+c-4) \\
 &= 3ac^2 - 3ac + 3a - 2c^2d + 2cd - 2d - (-4c^3 + 2c^2 - 8c - 2c^2d + cd - 4d) \\
 &= 3ac^2 - 3ac + 3a - 2c^2d + 2cd - 2d + 4c^3 - 2c^2 + 8c + 2c^2d - cd + 4d \\
 &= 3ac^2 - 3ac + 3a + \underline{cd} + 2d + 4c^3 - 2c^2 + 8c.
 \end{aligned}$$

$$\begin{aligned}
 2b. & (3a-2)(9a^2+6a+4) - (27a^3+8) \\
 &= 27a^3 - 8 - 27a^3 - 8 \\
 &= \underline{-16} \rightarrow
 \end{aligned}$$

