

$$\begin{aligned}
 2bc + a^2 - b^2 - c^2 &= a^2 - b^2 + 2bc - c^2 = \\
 &= a^2 - (b^2 - 2bc + c^2) = \\
 a^2 - (b-c)^2 &= (a+b-c)(a-(b-c)) = (a+b-c)(a-b+c)
 \end{aligned}$$

$$\begin{aligned}
 x^4 - 21x^2 + 4 &= (x^2)^2 - 21x^2 + 2^2 = \\
 &= \underline{(x^2)^2 + 2x^2 \cdot 2 + 2^2} - 2x^2 \cdot 2 - 21x^2 = \\
 &= (x^2+2)^2 - 2x^2 \cdot 2 - 21x^2 = \\
 &= (x^2+2)^2 - 4x^2 - 21x^2 = (x^2+2)^2 - 25x^2 = \\
 &= (x^2+2)^2 - 5^2 x^2 = (x^2+2)^2 - (5x)^2 = \\
 &= (x^2+2+5x)(x^2+2-5x)
 \end{aligned}$$

$$\begin{aligned}
 x^4 + x^2y^2 + y^4 &= (x^2)^2 + x^2y^2 + (y^2)^2 = \\
 \underline{(x^2)^2 + 2x^2 \cdot y^2 + (y^2)^2} - 2x^2 \cdot y^2 + x^2y^2 &= \\
 (x^2+y^2)^2 - 2x^2 \cdot y^2 + x^2y^2 &= (x^2+y^2)^2 + x^2y^2(-2+1) = \\
 = (x^2+y^2)^2 - x^2y^2 &= (x^2+y^2)^2 - (xy)^2 = \\
 = (x^2+y^2+xy)(x^2+y^2-xy)
 \end{aligned}$$

$$x^2 - 2xy + y^2 = (x-y)^2$$

$$x^2 + 2xy + y^2 = (x+y)^2$$

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

$$\begin{aligned}
 54g^2h^{109}u - 17g^2h^{109}u &= \\
 = g^2h^{109}u(54 - 17)
 \end{aligned}$$

$$(ab)^2 = a^2b^2$$