9. $(2xy^2z^4)^4(3x^{-1}z^2)^3(xy^5z^4) = [2^4x^4(y^2)^4(z^4)^4][3^3(x^{-1})^3(z^2)^3](xy^5z^4)$

$= (16x^4y^8z^{16})(27x^{-3}z^6)(x^1y^5z^4)$

$= 432x^{4+(-3)+1}y^{8+5}z^{16+6+4} = 432x^2y^{13}z^{26}$

10. $\dfrac{2(xy^4)^3(yz^2)^4}{(3xyz)^4} = \dfrac{2x^3(y^4)^3y^4(z^2)^4}{3^4x^4y^4z^4} = \dfrac{2x^3y^{12}y^4z^8}{81x^4y^4z^4} = \dfrac{2x^3y^{16}z^8}{81x^4y^4z^4}$

$= \dfrac{2}{81}x^{3-4}y^{16-4}z^{8-4} = \dfrac{2}{81}x^{-1}y^{12}z^4 = \dfrac{2}{81}\cdot\dfrac{1}{x}y^{12}z^4 = \dfrac{2y^{12}z^4}{81x}$