9. $$\left(\frac{x^2+y^2}{x}+y\right):\left[\left(\frac{1}{x^2}+\frac{1}{y^2}\right)\frac{x^3-y^3}{x^2+y^2}\right]=$$

$$=\frac{x^2+y^2+xy}{x}:\left[\left(\frac{y^2+x^2}{x^2y^2}\right)\cdot\frac{x^3-y^3}{x^2+y^2}\right]=$$

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

$$=\frac{x^2+xy+y^2}{x}\cdot\frac{x^2y^2}{(x-y)(x^2+xy+y^2)}=\frac{xy^2}{x-y}\qquad \begin{matrix} x\neq 0\\ y\neq 0\\ x\neq y\end{matrix}$$

10. $$\frac{a^2-1}{n^2+an}\cdot\left(\frac{1}{1-\frac{1}{n}}-1\right)\cdot\frac{a-an^3-n^4+n}{1-a^2}=$$

$$=\frac{(a-1)(a+1)}{n(n+a)}\cdot\left(\frac{1}{\frac{n-1}{n}}-1\right)\cdot\frac{a(1-n^3)+n(-n^3+1)}{(1-a)(1+a)}=$$

$$=\frac{(a-1)(a+1)}{n(n+a)}\cdot\left(\frac{n}{n-1}-1\right)\cdot\frac{a(1-n^3)+n(1-n^3)}{(1-a)(1+a)}=$$

$$=\frac{(a-1)(a+1)\cdot(-1)}{n(n+a)\cdot(-1)}\cdot\left(\frac{n-n-1}{n-1}\right)\cdot\frac{(1-n^3)(a+n)}{(1-a)(1+a)}=$$

$$=\frac{(1-a)(1+a)}{-n(a+n)}\cdot\frac{-1\cdot(-1)}{n-1\cdot(-1)}\cdot\frac{(1-n)(1+n+n^2)(a+n)}{(1-a)(1+a)}=$$

$$=\frac{1}{n(a+n)}\cdot\frac{1}{1-n}\cdot\frac{(1-n)(1+n+n^2)(a+n)}{1}=\frac{n^2+n+1}{n}$$

$a\neq\pm 1 \quad a\neq -n,\ n\neq 0\ n\neq 1$