

Semplifica le seguenti espressioni.

$$516 \quad \frac{3ab - b}{2a} : (9a^2 - 3a); \quad \frac{3x^2 - 6xy}{2y^4} : \frac{x^2 - 4y^2}{y^3}; \quad \left[\frac{b}{6a^2}; \frac{3x}{2y(x+2y)} \right]$$

$$517 \quad \frac{(x+2y^2)^3}{(1-x)^2} : \frac{(2y^2+x)^2}{(x-1)^3}; \quad (4x^2-2x) : \frac{4x^2+1-4x}{x}; \quad \left[(x+2y^2)(x-1); \frac{2x^2}{2x-1} \right]$$

$$518 \quad \frac{x^2-x}{x^2+4x+4} : \frac{2x^2+6x}{x^2-4}; \quad \frac{x^3+1+3x^2+3x}{x^2+5x} : \left(1 + \frac{2}{x} + \frac{1}{x^2} \right); \quad \left[\frac{(x-1)(x-2)}{2(x+2)(x+3)}; \frac{x^2+x}{x+5} \right]$$

$$519 \quad \left(\frac{3a}{2b} - 1 \right) : \left(\frac{9a^2}{4b^2} - 1 \right); \quad \left(1 - \frac{2}{x-1} \right) : \frac{x^2+x}{2x-2}; \quad \left[\frac{2b}{3a+2b}; \frac{2}{x} \right]$$

$$520 \quad \frac{a^3-ab^2}{a^2+2ab+b^2} : \frac{a^2-2ab+b^2}{a^2b-b^3} : ab; \quad \frac{a^3-ab^2}{a^2+2ab+b^2} : \left(\frac{a^2-2ab+b^2}{a^2b-b^3} : ab \right); \quad [1; a^2b^2]$$

$$521 \quad \left(\frac{1}{a} - \frac{a}{b} \right) : \left(1 - \frac{b-a^2+2ab}{2ab} \right) : \left(-\frac{1}{a} \right); \quad \left(1 - \frac{x-3y}{x+y} \right) : \left(\frac{3x+y}{x-y} - 3 \right); \quad \left[2a; \frac{x-y}{x+y} \right]$$

$$522 \quad \left(\frac{2y^2}{1+y} - y + 1 \right) : \frac{y^2+y^4}{4yz^2+4z^3}; \quad \left(x - \frac{y^2+x^2}{x} \right) : \left(\frac{1}{y} - \frac{1}{x} \right); \quad \left[\frac{4z^2}{y^2}; \frac{y^3}{y-x} \right]$$

$$523 \quad 3 : \frac{x+y}{x-y} + \frac{x-y}{x+y}; \quad 3 : \left(\frac{x+y}{x-y} + \frac{x-y}{x+y} \right); \quad \left[\frac{4(x-y)}{(x+y)}; \frac{3(x^2-y^2)}{2(x^2+y^2)} \right]$$

$$524 \quad \frac{2x^3}{x+y} : \frac{4xy}{x^2+2xy+y^2} : \frac{x^2-y^2}{yx-y^2}; \quad \frac{2x^3}{x+y} : \left(\frac{4xy}{x^2+2xy+y^2} : \frac{x^2-y^2}{yx-y^2} \right); \quad \left[\frac{x^2}{2}; \frac{x^2(x+y)^2}{2y^2} \right]$$

$$525 \quad \frac{2}{a} \left(\frac{a+b}{2b} + \frac{b}{a-b} \right) : \frac{a^2+b^2}{ab-b^2}; \quad \left(1 + \frac{2}{x-1} \right) \cdot \frac{x^2+x-2}{x^2+x} : (x^2-4); \quad \left[\frac{1}{a}; \frac{1}{x(x-2)} \right]$$

$$526 \quad \frac{z}{z^2-a^2} \cdot (z-a) : \left[\left(1 - \frac{a}{z} \right) \frac{az}{z^2-a^2} \right]; \quad \left(\frac{a+3}{a-3} : \frac{a^2+2a-3}{a^2-2a-3} + 1 \right) : (a-1); \quad \left[\frac{z}{a}; \frac{2a}{(a-1)^2} \right]$$

$$527 \quad \frac{1}{x} : \left(\frac{x-3y}{xy} + \frac{x+y}{x^2} - \frac{y^3-2xy^2}{x^2y^2} \right); \quad \left[\frac{y}{x} \right]$$

$$528 \quad \left[\left(\frac{1}{x^2} - \frac{1}{y^2} \right) : \left(\frac{1}{x} - \frac{1}{y} \right) \right] : \frac{x+y}{xy}; \quad [1]$$

$$529 \quad \frac{a}{a+1} : \left(\frac{2a-1}{a+3} - \frac{2a-5}{a+1} - \frac{14}{a^2+4a+3} \right); \quad [\text{impossibile, perché...}]$$

$$530 \quad x(2x-1) : \left(2x + \frac{1}{2x-2} + \frac{2x-1}{2x-2} \right); \quad [x-1]$$

$$531 \quad \left[\frac{x(x-y)}{y} + \frac{y(y-x)}{x} \right] : \frac{x^2-y^2}{xy}; \quad [x-y]$$