

Vereinfache die Doppelbrüche so weit wie möglich:

$$1. \frac{\frac{4a-6b}{2a} - \frac{3b}{2a-b}}{3 - \frac{2}{2}} =$$

$$2. \frac{\frac{x+y}{2} - \frac{6x-2y}{1}}{3x-y} - \frac{1}{2x} =$$

$$3. \frac{1 + \frac{(a-b)^2}{4ab}}{1 + \frac{a}{b}} =$$

$$4. \frac{x^3+7x^2-8x}{x^3+6x^2-16x} \cdot \left(\frac{1}{x} - \frac{2}{x+2} \right) =$$

$$5. \left(\frac{x-2y}{x+y} - \frac{x-2y}{x-y} \right) \cdot \frac{6x^2-6y^2}{x^2-5xy+6y^2} =$$

$$6. \frac{\frac{2a}{a-4} + \frac{3a}{3-a}}{a^2-36} = \frac{a^2-7a+12}{a^2-36}$$

$$7. \frac{1 + \frac{1}{a} - \frac{2}{a^2}}{a-1} =$$

$$8. \frac{\frac{36x^2-16y^2}{3x+2y}}{\frac{3x-2y}{6x+4y}} =$$

$$9. \frac{\frac{18a^2b+6ab^2}{a+b} - \frac{6a^2b-6ab^2}{a}}{a-b} - \frac{a}{a+b} =$$

$$10. \frac{\frac{2ab-3a^2}{6a+9b}}{\frac{9a^3-12a^2b+4ab^2}{4a^2-9b^2}} =$$

$$11. \frac{1 - \frac{1}{a-1}}{\frac{2}{a} - 1} - \frac{1 - \frac{1}{a-1}}{2-a} =$$

$$12. 1 - \frac{1-a}{1+a - \frac{4a}{1+a}} =$$

$$13. \frac{\frac{1}{1-x} - \frac{2x}{1-x^2}}{\frac{1}{1+x} - 1} =$$

$$14. \frac{\frac{1}{x} + \frac{1}{a-x}}{\frac{1}{a} - \frac{1}{a-x}} =$$

$$15. \frac{\frac{1+x}{1} - \frac{1-x}{1}}{1 + \frac{1}{x} + \frac{1}{1-\frac{1}{x}}} =$$

$$16. (a^2 - 3a + 2) \cdot \frac{\frac{1}{a-1} + \frac{1}{a+1}}{a^2 - 2a} =$$

$$17. \frac{m + \frac{mn}{m-n}}{mn - \frac{mn^2}{m+n}} - \frac{1}{n} =$$

$$18. a - \frac{-1}{1-2a + \frac{3a^2}{1+2a}} =$$

$$19. \frac{\frac{4a^2}{b^2} - 9}{\frac{a^2}{b} \cdot \left(\frac{4}{b} + \frac{12}{a} \right) + 9} =$$

$$20. \frac{\frac{6a^3+18a^2b+12ab^2}{a+2b} + b^2 - ab}{3a+b} =$$

$$21. \frac{2a + \frac{a}{a-1}}{1+a - \frac{3a^2}{1-a}} + 1 =$$