3. Bez Bruchgleichungen AB 3

Bestimme jeweils die Definitionsmenge und die Lösungsmenge:

1. $\frac{1}{3} - \frac{4}{x} = 1$

2. $\frac{x^2-4}{3x} - \frac{2-x}{3} = \frac{2x}{3} - \frac{4}{x}$

3. $\frac{17}{y} - \left(\frac{9}{2y} - 5\right) = 5$

4. $\frac{4}{x+5} = 1$

5. $\frac{4}{y} = \frac{10}{y+4}$

6. $\frac{3}{5x+7} = \frac{1}{2x}$

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

8. $\frac{4}{y+1} = \frac{10}{y+4}$

9. $\frac{1}{3-x} + \frac{1}{x+4} = \frac{7}{(3-x)(x+4)}$

10. $\frac{3}{(x-2)(x+3)} = \frac{4}{x+3} - \frac{5}{x-2}$

11. $\frac{1}{8} = \frac{3}{4x} + \frac{1}{2x}$

12. $\frac{1}{2x} = \frac{1}{3x}$

13. $\frac{4}{9x} - \frac{2}{15x} = \frac{1}{3}$

14. $\frac{5}{x} - \frac{4}{21} = 1 - \frac{10}{3x}$

15. $\frac{1}{x} - \left(\frac{8}{9} - \frac{1}{3x}\right) = 0$

16. $\frac{6-5x}{3} - \left(\frac{1}{x} + \frac{1}{4x}\right) = -\frac{10x+3}{6}$

17. $\frac{13(13-x)}{3x} = \frac{3}{4x} + \frac{21}{x} + \frac{31}{12}$

18. $0 = \frac{3}{x} - \left(\frac{1}{3x} + \frac{6-5x}{2x} + \frac{2}{3}\right)$

19. $17{,}5 = \frac{6}{v} - \frac{1{,}5}{v} + \frac{4}{3v}$

20. $\frac{7}{a-3} = 2$

21. $\frac{2}{t+1} = \frac{1}{4}$

22. $\frac{3}{u+2} + 2{,}5 = 0$

23. $\frac{2}{t} = \frac{1}{t-1}$

24. $\frac{1}{x} - \frac{1}{x+1} = 0$

25. $\frac{5}{x+8} = \frac{1}{x}$

26. $\frac{5}{48-x} = \frac{3}{x}$

27. $\frac{5}{x} - \frac{4}{x+1} = \frac{4}{x(x+1)}$

28. $\frac{3}{x-2} + \frac{4}{x} = \frac{6}{x(x-2)}$

29. $\frac{5}{4t+t^2} - \frac{1}{t} = 0$

30. $\frac{0{,}5}{y-1} = \frac{1}{2y-2}$