FRACCIONES ALGEBRAICAS

Simplificar:

1. $\dfrac{3-12a^2}{9+36a+36a^2}$

2. $\dfrac{(xy)^5-(xy)^8}{(xy)^6-(xy)^9}$

3. $\dfrac{2ab^2-6bc}{4a^2b-12ac}$

4. $\dfrac{10x^2-10x^4}{5x^3+10x^4+5x^5}$

5. $\dfrac{x^3y^2-5x^3y^3}{x^5y^3-5x^5y^4}$

6. $\dfrac{15x+15}{10x+10}$

7. $\dfrac{3x^2+6x}{5x^2-5x}$

8. $\dfrac{2x^3-6x^2}{ax-3a}$

9. $\dfrac{15x^4y-15x^3y+30xy}{3x^3y-9x^2y+3xy}$

10. $\dfrac{a^2b^4-ab^4}{a^4b^4-a^4b^3}$

11. $\dfrac{3a^2b-5ab}{6a^3b^2-10a^2b^2}$

12. $\dfrac{x^2+x}{x^2+2x+1}$

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

14. $\dfrac{x^2-1}{x^2+2x+1}$

15. $\dfrac{3x-9}{x^2-9}$

16. $\dfrac{5x^2+10x}{3x^4+12x^3+12x^2}$

17. $\dfrac{x^2-1}{x^4-1}$

18. $\dfrac{2x^3-6x^2}{x^2-6x+9}$

19. $\dfrac{5ab}{15a+10a^2}$

20. $\dfrac{4x^2-8x}{4x}$

21. $\dfrac{2z^3-12z^2+18z}{4z^3-36z}$

22. $\dfrac{ab-bx}{a^2-x^2}$

23. $\dfrac{(ab)^3}{(ab)^3-(ab)^4}$

24. $\dfrac{a^2-2ab+b^2}{3a-3b}$

25. $\dfrac{18a-3ab}{6a^2}$

26. $\dfrac{8x^2-2}{16x^2-16x+4}$

27. $\dfrac{(xy)^3-(xy)^6}{(xy)^8}$

28. $\dfrac{15ab-3ac}{10b^2-2bc}$

Operar y simplificar:

29. $\frac{1}{ab}+\frac{1}{b}-\frac{1}{a}$

30. $\frac{1}{xy}+\frac{1}{x^2y}+\frac{1}{y^2}$

31. $\frac{1}{x}-\frac{1}{x-1}$

32. $\frac{1}{x+2}-\frac{1}{x-2}$

33. $\frac{3}{x-3}-\frac{1}{x+2}$

34. $\frac{2}{x+3}-\frac{3}{x-3}+\frac{3x+10}{x^2-9}$

35. $\frac{a}{b}.\frac{a^2}{b^3}$

36. $\frac{x+1}{x^2-2x+1}.\frac{x^2-1}{x^3}$

37. $\frac{a^2b^3}{c^2}.\frac{c^3a}{b^4}$

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

39. $\frac{x-2}{x+2}:\frac{x^2-4}{x^2+4x+4}$

40. $\frac{x}{y}:\frac{x+1}{y+1}$

41. $\left(\frac{a}{b}:\frac{a}{c}\right):\frac{a}{d}$

42. $\frac{a}{b}:\left(\frac{a}{c}:\frac{a}{d}\right)$

43. $\frac{1}{x+2}-\frac{1}{x^2+4x+4}$

44. $\frac{1}{x+3}-\frac{1}{x-3}$

45. $\frac{3}{2x}-\frac{3x-1}{x^2+x}$

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

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

48. $\frac{4}{(x-1)(x+3)}-\frac{3}{(x-1)(x+2)}$

49. $\frac{x^3-x^2}{(x+3)(x+2)}:\frac{x^2+x}{x^2-4}$

50. $\frac{x^2-4}{x^2-9}:\frac{x^2-4x+4}{x^2+6x+9}$

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

52. $\left(2x-\frac{2}{x}\right).\left(1+\frac{1}{x\text{-}1}\right)$

53. $\left(\frac{1}{x+2}+\frac{x}{x-2}\right):\left(\frac{x}{x+2}-\frac{1}{x-2}\right)$

54. $\frac{a}{b}.\left(\frac{1}{a}-\frac{1}{b}\right)$

55. $\frac{2}{x}.\left(\frac{1}{x}:\frac{1}{x-1}\right)$

56. $\left(\frac{1}{x-1}-\frac{1}{x+2}\right):\frac{2}{x^2-2x+1}$

57. $\left(\frac{10}{x+3}-\frac{8}{x+2}\right):\left(\frac{x+2}{x}-\frac{8}{x+2}\right)$

58. $\frac{1}{a^2-b^2}:\frac{1}{a+b}$

59. $\frac{3x^2-3x}{y}:\frac{yx-y}{y^2}$

60. $\left(1+\frac{x-y}{x+y}\right):\left(1-\frac{x-y}{x+y}\right)$

61. $\frac{x}{x-2}+\frac{2x^2-3x+18}{x^3-4x}-\frac{4x}{x^2+2x}$

62. $\frac{x+\frac{1}{x}}{x-\frac{1}{x}}$

63. $\frac{x^2+2xy+y^2}{x+y}:\frac{x^2-y^2}{\frac{1}{x}-\frac{1}{y}}$

64. $\left(\frac{1}{3x-y}-\frac{1}{3x}\right):\frac{1}{\frac{3x}{y}-1}$