Decomporre in fratti semplici le seguenti funzioni razionali:

1. $\dfrac{5x+1}{x^2-1}$

Risposta: $\dfrac{5x+1}{x^2-1} = \dfrac{2}{x+1} + \dfrac{3}{x-1}$

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

Risposta: $\dfrac{2x+5}{x^2-x-2} = \dfrac{3}{x-2} - \dfrac{1}{x+1}$

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

Risposta: $\dfrac{x}{x^2-3x+2} = \dfrac{2}{x-2} - \dfrac{1}{x-1}$

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

Risposta: $\dfrac{-x}{x^2+3x+2} = \dfrac{1}{x+1} - \dfrac{2}{x+2}$

5. $\dfrac{x+8}{x^2+x-2}$

Risposta: $\dfrac{x+8}{x^2+x-2} = \dfrac{3}{x-1} - \dfrac{2}{x+2}$

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

Risposta: $\dfrac{5-x}{x^2+2x-3} = \dfrac{1}{x-1} - \dfrac{2}{x+3}$

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

Risposta: $\dfrac{6-5x}{2x^2+5x-3} = \dfrac{1}{2x-1} - \dfrac{3}{x+3}$

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

Risposta: $\dfrac{3x-2}{2x^2-5x-3} = \dfrac{1}{2x+1} + \dfrac{1}{x-3}$

9. $\dfrac{7x+1}{6x^2+x-1}$

Risposta: $\dfrac{7x+1}{6x^2+x-1} = \dfrac{2}{3x-1} + \dfrac{1}{2x+1}$

10. $\dfrac{7(x-1)}{6x^2-x-2}$

Risposta: $\dfrac{7(x-1)}{6x^2-x-2} = \dfrac{3}{2x+1} - \dfrac{1}{3x-2}$

11. $\dfrac{5(x-1)}{3x^2+x-2}$

Risposta: $\dfrac{5(x-1)}{3x^2+x-2} = \dfrac{2}{x+1} - \dfrac{1}{3x-2}$

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

Risposta: $\dfrac{7x+5}{3x^2+5x+2} = \dfrac{1}{3x+2} + \dfrac{2}{x+1}$

13. $\dfrac{5(x+2)}{2x^2+x-3}$

Risposta: $\dfrac{5(x+2)}{2x^2+x-3} = \dfrac{3}{x-1} - \dfrac{1}{2x+3}$

14. $\dfrac{3-7x}{3x^2+10x+3}$

Risposta: $\dfrac{3-7x}{3x^2+10x+3} = \dfrac{2}{3x+1} - \dfrac{3}{x+3}$

15. $\dfrac{6x-7}{8x^2-2x-3}$

Risposta: $\dfrac{6x-7}{8x^2-2x-3} = \dfrac{2}{2x+1} - \dfrac{1}{4x-3}$

16. $\dfrac{2(7x+5)}{8x^2+10x+3}$

Risposta: $\dfrac{2(7x+5)}{8x^2+10x+3} = \dfrac{1}{4x+3} + \dfrac{3}{2x+1}$

17. $\dfrac{5(2x+1)}{8x^2+2x-3}$

Risposta: $\dfrac{5(2x+1)}{8x^2+2x-3} = \dfrac{1}{4x+3} + \dfrac{2}{2x-1}$

18. $\dfrac{14x-9}{8x^2-10x+3}$

Risposta: $\dfrac{14x-9}{8x^2-10x+3} = \dfrac{3}{4x-3} + \dfrac{2}{2x-1}$

19. $\dfrac{18x-11}{8x^2-2x-3}$

Risposta: $\dfrac{18x-11}{8x^2-2x-3} = \dfrac{1}{4x-3} + \dfrac{4}{2x+1}$

20. $\dfrac{10x+7}{8x^2+10x+3}$

Risposta: $\dfrac{10x+7}{8x^2+10x+3} = \dfrac{1}{4x+3} + \dfrac{2}{2x+1}$

21. $\dfrac{14x+3}{8x^2+2x-3}$

Risposta: $\dfrac{14x+3}{8x^2+2x-3} = \dfrac{3}{4x+3} + \dfrac{2}{2x-1}$

22. $\dfrac{2x}{8x^2-10x+3}$

Risposta: $\dfrac{2x}{8x^2-10x+3} = \dfrac{3}{4x-3} - \dfrac{1}{2x-1}$

23. $\dfrac{7(x-1)}{2x^2-9x+4}$

Risposta: $\dfrac{7(x-1)}{2x^2-9x+4} = \dfrac{1}{2x-1} + \dfrac{3}{x-4}$

24. $\dfrac{5x-7}{2x^2-11x+5}$

Risposta: $\dfrac{5x-7}{2x^2-11x+5} = \dfrac{1}{2x-1} + \dfrac{2}{x-5}$

25. $\dfrac{7x+13}{2x^2+9x-5}$

Risposta: $\dfrac{7x+13}{2x^2+9x-5} = \dfrac{3}{2x-1} + \dfrac{2}{x+5}$

26. $\dfrac{-4x-1}{6x^2-11x+3}$

Risposta: $\dfrac{-4x-1}{6x^2-11x+3} = \dfrac{1}{3x-1} - \dfrac{2}{2x-3}$

27. $\dfrac{2(2x-3)}{x^2-4x+3}$

Risposta: $\dfrac{2(2x-3)}{x^2-4x+3} = \dfrac{1}{x-1} + \dfrac{3}{x-3}$