

## Partial Fraction Exercises

In Exercises 1-26, decompose the given rational function into partial fractions.

$$1. \frac{-x+13}{x^2-x-6}$$

$$2. \frac{-2x+23}{x^2-3x-4}$$

$$3. \frac{9x-7}{2x^2-3x+1}$$

$$4. \frac{x+11}{2x^2-x-10}$$

$$5. \frac{-4}{x^2-4}$$

$$6. \frac{4x+12}{4x^2-9}$$

$$7. \frac{3x+10}{(x+4)^2}$$

$$8. \frac{5x-7}{(x-2)^2}$$

$$9. \frac{-2x+5}{(2x-3)^2}$$

$$10. \frac{15x+16}{(3x+4)^2}$$

$$11. \frac{-18x^2-36x-17}{(3x+4)^3}$$

$$12. \frac{2x^3-6x^2+3x+2}{(x-1)^4}$$

$$13. \frac{x^3+x^2+4x-2}{(x^2-x+1)(x^2+2)}$$

$$14. \frac{2x^3+x^2-2x-4}{(x^2+2x+2)(x^2+x+1)}$$

$$15. \frac{-6x^3+2x^2-5x-3}{(x^2+1)(2x^2-x+1)}$$

$$16. \frac{5x^3-10x^2+3x+3}{(x^2-x+3)(3x^2-2x+1)}$$

$$17. \frac{-3x^3-2x^2-13x-5}{(x^2+4)^2}$$

$$18. \frac{-10x^3+4x^2-18x+6}{(2x^2+3)^2}$$

$$19. \frac{-2x^3+5x^2+7x+9}{(x^2-x+1)(x^2+3x+3)}$$

$$20. \frac{2x^3+6x^2-2x+3}{(x^2-2x+2)(x^2+2x+3)}$$

$$21. \frac{3x^2-3x+10}{(x-2)(x^2+4)}$$

$$22. \frac{6x^2+5x+10}{(x^2+3x+1)(x-2)}$$

$$23. \frac{14x^2-52x-30}{5x^3-7x^2-6x}$$

$$24. \frac{8x^3-8x^2+14x-4}{x^4-2x^3+2x^2}$$

$$25. \frac{11x^2+19x+8}{(x+2)^2(2x-3)}$$

$$26. \frac{2x^3+21x^2+36x-24}{(x^2+4)(x+4)^2}$$