



2023-2024

3.6 Partial Fractions

SCORE:

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Name _____ Date _____ Period _____

Simplify.

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

2. $\frac{6}{3x-5} - \frac{4}{x-6}$

3. $\frac{5}{x-3} + \frac{3x+5}{x-6}$

Write the terms of the partial fraction decomposition of the rational function. Do NOT solve for the constants.

4. $\frac{x^2 - 7}{x(x^2 - 4)}$

5. $\frac{x^5 - 2x^4 + x - 1}{x^3(x-1)^2(x^2+9)}$

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

Find the partial fraction decomposition.

$$7. \frac{x+22}{(x+4)(x-2)} = \frac{A}{x+4} + \frac{B}{x-2}$$

$$8. \frac{x-3}{x(x+3)} = \frac{A}{x} + \frac{B}{x+3}$$

$$9. \frac{4x+4}{x^2(x+2)} = \frac{A}{x} + \frac{B}{x^2} + \frac{C}{x+2}$$

$$10. \frac{x^2-2x+1}{(x-2)^3} = \frac{A}{x-2} + \frac{B}{(x-2)^2} + \frac{C}{(x-2)^3}$$

$$11. \frac{2}{(x-5)(x-3)}$$

$$12. \frac{4}{x^2-1}$$

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

$$14. \frac{-x+10}{x^2+x-12}$$

$$15. \frac{x+17}{2x^2+5x-3}$$

$$16. \frac{5x-1}{x^2-2x-15}$$