

5.6 Worksheet A | Integrating Rational Functions

Find the integral. Do not use a calculator.

1. $\int \frac{1}{4x+5} dx$

2. $\int \frac{45}{9x-2} dx$

3. $\int \frac{6x^2+18x}{x^2+9x} dx$

4. $\int \frac{5x^4+x-7}{x} dx$

5. $4 \ln |x^3 - 4x^2 + 3x| + C$ 6. $\frac{1}{3}x^3 + \frac{5}{2}x^2 + 15x + 5 \ln |x - 3| + C$ 7. $3x^2 - 7x + \ln |2x + 1| + C$

$$5. \int \frac{12x^2 - 32x + 12}{x^3 - 4x^2 + 3x} dx$$

$$6. \int \frac{x^3 + 2x^2 - 40}{x - 3} dx$$

$$7. \int \frac{12x^2 - 8x - 5}{2x + 1} dx$$

$$1. \frac{1}{4} \ln |4x + 5| + C \quad 2. 5 \ln |9x - 2| + C \quad 3. 2 \ln |x^3 + 9x| + C \quad 4. \frac{5}{4}x^4 + x - 7 \ln |x| + C$$