

No calculators will be allowed and no partial credit will be given.

1. Express the indefinite integral $\int -\frac{1}{(x-3)(x-1)} dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.
2. Express the indefinite integral $\int \frac{3x}{(x+2)(x+4)} dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.
3. Express the indefinite integral $\int \frac{4x-1}{(x-1)(x+4)} dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.
4. Express the indefinite integral $\int \frac{3}{x^2+7x+12} dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.
5. Express the indefinite integral $\int -\frac{x}{x^2-1} dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.
6. Express the indefinite integral $\int \frac{4x-1}{(x-3)(x+2)} dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.
7. Express the indefinite integral $\int \frac{5x}{(x-2)^2} dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.
8. Express the indefinite integral $\int \frac{5x+3}{(x-4)^2} dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.
9. Express the indefinite integral $\int -\frac{4x}{x^2-2x+1} dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.
10. Express the indefinite integral $\int \frac{x+1}{x^2+8x+16} dx$ in terms of elementary functions. Use the symbol C to denote an arbitrary constant.

1. $\frac{\ln(|x-1|)}{2} - \frac{\ln(|x-3|)}{2} + C$

2. $6 \ln(|x+4|) - 3 \ln(|x+2|) + C$

3. $\frac{17 \ln(|x+4|)}{5} + \frac{3 \ln(|x-1|)}{5} + C$

4. $3 \ln(|x+3|) - 3 \ln(|x+4|) + C$

5. $-\frac{\ln(|x^2-1|)}{2} + C$

6. $\frac{9 \ln(|x+2|)}{5} + \frac{11 \ln(|x-3|)}{5} + C$

7. $5 \ln(|x-2|) - \frac{10}{x-2} + C$

8. $5 \ln(|x-4|) - \frac{23}{x-4} + C$

9. $\frac{4}{x-1} - 4 \ln(|x-1|) + C$

10. $\ln(|x+4|) + \frac{3}{x+4} + C$