

Give the appropriate form of the partial fraction decomposition.

1)  $\frac{5x + 31}{(x + 2)(x + 5)}$

1) \_\_\_\_\_

A)  $\frac{2}{x + 2} + \frac{-7}{x + 5}$

B)  $\frac{7}{x - 2} + \frac{-2}{x - 5}$

C)  $\frac{7}{x + 2} + \frac{2}{x + 5}$

D)  $\frac{7}{x + 2} + \frac{-2}{x + 5}$

2)  $\frac{y + 6}{y^2(y + 1)}$

2) \_\_\_\_\_

3)  $\frac{x + 4}{x^2 + 4x + 4}$

3) \_\_\_\_\_

Express the integrand as a sum of partial fractions and evaluate the integral.

4)  $\int \frac{x + 4}{x^2 + 2x} dx$

4) \_\_\_\_\_

5)  $\int \frac{3x + 12}{x^3 + 4x^2 + 4x} dx$

5) \_\_\_\_\_

Solve the problem by integration.

6) The general expression for the slope of a curve is  $\frac{4x + 6}{x^2 + 6x}$ . Find the equation of the curve if it passes through (1, 0).

6) \_\_\_\_\_