

Name: _____

7.4 Mountain Climber



5) Find the partial fraction decomposition: $\frac{3x+5}{x^3+4x^2+5x+2}$

4) Find the partial fraction decomposition: $\frac{3x^3+6x-1}{(x^2+2)^2}$

3) Find the partial fraction decomposition: $\frac{3x-2}{x^2-3x-4}$

2) Find the partial fraction decomposition: $\frac{-6}{x^2-3x}$

1) Write the terms for the partial fraction decomposition of the rational function:

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



Solutions:

$$1. = \frac{A}{x} + \frac{B}{x^2} + \frac{C}{(x+4)} + \frac{D}{(x+4)^2} + \frac{Ex+F}{x^2+3}$$

$$2. = \frac{-2}{x-3} + \frac{2}{x}$$

$$3. = \frac{1}{x+1} + \frac{2}{x-4}$$

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

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