

Partial Fractions Problems

Determine the partial fraction decomposition for each fraction.

1. $\frac{(x+14)}{x^2+2x}$

2. $\frac{-2x+26}{(x-3)(x+2)}$

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

4. $\frac{3x^2+26x+46}{(x-1)(x+4)^2}$

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

6. $\frac{2x^2-x+15}{(x-3)(x^2+6)}$

7. $\frac{2x^4+4x^2+x+2}{x(x^2+1)^2}$

Answers:

1. $\frac{7}{x} + \frac{-6}{(x+2)}$

2. $\frac{4}{(x-3)} + \frac{-6}{(x+2)}$

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

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

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

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

7. $\frac{2}{x} + \frac{1}{(x^2+1)^2}$