Precalculus

8-04 Partial Fractions

To split a rational function into smaller ________

$$\frac{x+8}{x^2+6x+8} = \frac{?}{x+2} + \frac{?}{x+4}$$

To Find Partial Fractions

1. _____the denominator.

2. For each ______factor of the denominator are in the form

$$\frac{A}{px+q} + \frac{B}{(px+q)^2} + \cdots$$

3. For each ______factor of the denominator are in the form

$$\frac{Ax+B}{ax^2+bx+c}+\frac{Cx+D}{(ax^2+bx+c)^2}+\cdots$$

4. _____for *A*, *B*, *C*, etc.

5. Multiply by the _____

a. Choose ______values of *x* to find *A*, *B*, *C*, etc.

b. Or create a ______of linear equations based on the ______of *x*.

Find the partial fractions $\frac{x+8}{x^2+6x+8}$

$3\lambda = \lambda + 3$	
$\frac{3x^2 - x + 5}{x^3 - 2x^2 + x}$	
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$67^{\circ} \pm 167$	
$\frac{6x^2 + 16x}{(x^2 + 2)^2}$	
$\frac{6x^3 + 16x}{(x^2 + 3)^2}$	
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$\frac{6x^{\circ} + 16x}{(x^2 + 3)^2}$	
$\frac{6x^2 + 16x}{(x^2 + 3)^2}$	
$\frac{6x^2 + 10x}{(x^2 + 3)^2}$	
$\frac{6x^2 + 10x}{(x^2 + 3)^2}$	
$\frac{6x^{2}+16x}{(x^{2}+3)^{2}}$	
$\frac{6x^2 + 16x}{(x^2 + 3)^2}$	
$\frac{6x^2 + 10x}{(x^2 + 3)^2}$	

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