

$$\frac{4}{x^2 - 16} + \frac{3}{x^2 + 8x + 16}$$

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

$$= \frac{4}{(x+4)(x-4)} \cdot \left[\frac{(x+4)}{(x+4)} \right] + \frac{3}{(x+4)^2} \cdot \left[\frac{(x-4)}{(x-4)} \right]$$

$$= \frac{4x+16}{(x-4)(x+4)^2} + \frac{3x-12}{(x-4)(x+4)^2}$$