$$(x+y)(x-y) = x^2 - y^2 (\mathbf{x} + \mathbf{y})(\mathbf{x} - \mathbf{y}) = \mathbf{x}^2 - \mathbf{y}^2 \pi \mathbf{r}^2 (x+\mathbf{y})(x-\mathbf{y}) = x^2 - \mathbf{y}^2$$
$$(x+\mathbf{y})(x-\mathbf{y}) = x^2 - \mathbf{y}^2 (x+\mathbf{y})(x-\mathbf{y}) = x^2 - \mathbf{y}^2 \alpha + \alpha < \beta + \beta$$