$$f(x) = \frac{(Ax, x)^2}{(x, x)(Ax, Ax)}$$

$$grad\ f(x) = \frac{4(Ax, x)Ax}{(x, x)(Ax, Ax)} - \frac{2(Ax, Ax)(Ax, x)^2 x + 2(x, x)(Ax, x)^2 A^2 x}{(x, x)^2 (Ax, Ax)^2} =$$

$$= 2(Ax, x)\frac{2(x, x)(Ax, Ax)Ax - (Ax, Ax)(Ax, x)x - (x, x)(Ax, x)A^2 x}{(x, x)^2 (Ax, Ax)^2}$$