$$\frac{ax^2+bx+c}{a} = \frac{0}{a}$$

$$x^2+\frac{b}{a}x+\frac{c}{a}=0$$

$$-\frac{c}{a} \qquad -\frac{c}{a}$$

$$x^2+\frac{b}{a}x = -\frac{c}{a}$$

$$+\frac{b^2}{4a^2} \qquad +\frac{b^2}{4a^2}$$

$$x^2+\frac{b}{a}x+\frac{b^2}{4a^2} = \frac{b^2}{4a^2}-\frac{c}{a}$$

$$\left(x+\frac{b}{2a}\right)^2 = \frac{b^2}{4a^2}-\frac{c}{a}\cdot\frac{(4a)}{(4a)}$$

$$\left(x+\frac{b}{2a}\right)^2 = \frac{b^2-4ac}{4a^2}$$

$$\sqrt{\left(x+\frac{b}{2a}\right)^2} = \sqrt{\frac{b^2-4ac}{4a^2}}$$

$$x+\frac{b}{2a} = \frac{\sqrt{b^2-4ac}}{\sqrt{4a^2}}$$

$$x+\frac{b}{2a} = \pm\frac{\sqrt{b^2-4ac}}{2a}$$

$$-\frac{b}{2a} \qquad -\frac{b}{2a}$$

$$x = -\frac{b}{2a} \pm \frac{\sqrt{b^2-4ac}}{2a}$$

$$x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$$

Why can we use -b/2a to find the LOS?

$$x = \frac{-b}{2a} \pm \frac{\sqrt{b^2-4ac}}{2a}$$

Values of x are equidistant from the LOS