

$$1 + \frac{2zp}{wn} - \frac{p^2}{wn^2}$$

$$\Delta = b^2 - 4ac$$

$$\frac{4z^2 + 4}{wn^2} > 0$$

$$4z^2 + 4 > 0$$

$$z^2 + 1 > 0$$

$$z^2 > -1$$