

Section 2.1

⑧ $f(x) = x^2 + \sqrt{2}x + 1$

$$x^2 + 1.414x + 1$$

vertex: $ax^2 + bx + c$

$$h = \frac{-b}{2a} = \frac{-1.414}{2(1)} = -0.707$$

Double
✓ →

$$k = (-0.707)^2 + 1.414(-0.707) + 1$$

$$= 1.499 \quad (-0.707, 1.5)$$

$h \qquad k$

~~≈ 1.5~~ $0.5\sqrt{\quad}$

$a = 1 \Rightarrow \rightarrow$ up x-int ($y=0$)

↓
neutral

$$0 = x^2 + 1.414x + 1$$

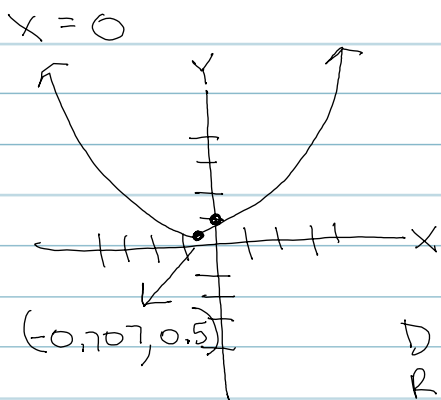
$$x = h \pm \sqrt{\frac{-k}{a}} = -0.707 + \sqrt{\frac{-1.5}{1}}$$

$$= -0.707 + \sqrt{1.5}$$

no x-int

y-int

x	y
0	1
-1	



$D: \mathbb{R}$
 $R: [0.5, \infty)$