$y = 3x^2 + 6x + 7$ ← 포물선을 그림으로 그리기

$= 3(x^2 + 2x + \square - \square) + 7$

$= 3(x+1)^2 - 3 + 7$

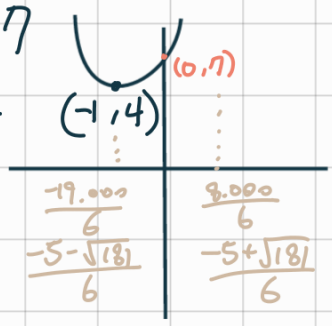
$= 3(x+1)^2 + 4$

$(x+a)^2 = x^2 + 2ax + a^2$

$y = 3x^2$ →

x축 −1

y축 4




실수: 근(해)이 없다

의미

$y = x + 20$ 이 만나는 교점은?

$y = ax^2 + bx + c$

$y = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$ → 25−4 양수이므로 해가 있는 것!

$y = 3x^2 + 6x + 7 = x + 20$

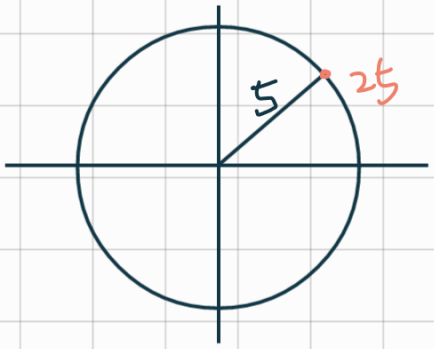
$3x^2 + 5x - 13 = 0$

$\frac{-5 \pm \sqrt{25 + 4 \times 3 \times 13}}{6}$

$\sqrt{181}$

12
13
36
12
156
25

원의 방정식




$x^2+y^2=25$

$y=x+2$

교점은?

① $(a+b)^2=a^2+2ab+b^2$

② $ax^2+bx+c=0$

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

$(x+2)^2+x^2=25$

$x^2+4x+4+x^2=25$

$2x^2+4x-21=0$

$$\frac{-4\pm\sqrt{16+4\times2\times21}}{4}=\frac{-4\pm\sqrt{184}}{4}$$

$$=\frac{-4\pm14}{4}$$

$y=-x^2+2x+2$

$y=2x$

$-x^2+2x+2=0$

$2x=0$

---

$-x^2+2=0$

$x^2=2$

$x=\sqrt{2}$

$y=\pm2\sqrt{2}$

T.ver

$=-(x^2-2x+1-1)+2$

$=-(x-1)^2+3$