

# A188 Completing the square

①  $(-5, -7)$

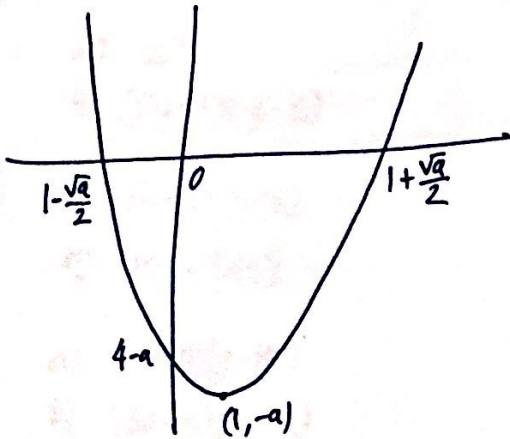
② i)  $a=3$   
 $b=8$        $(x-3)^2 - 8$

ii)  $(3, -8)$

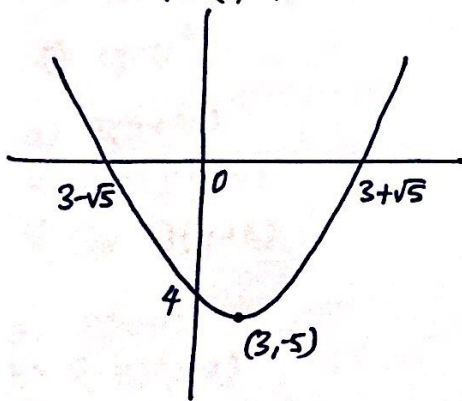
③ a)  $2(x+4)^2 + 3$

b)  $(-4, 3)$

④



⑤



⑥ a)  $-1, 3$

b)  $a=-7$   
 $b=6$

⑦  $22.5 \text{ cm}$

⑧  $320 \text{ metres}$

⑨  $(2, -9)$

2. Completing the square

$x^2 + 6x + 9 = (x+3)^2$       ①

$x^2 - 4x + 4 = (x-2)^2$       ②

$x^2 + 10x + 25 = (x+5)^2$       ③

$x^2 - 8x + 16 = (x-4)^2$       ④

$x^2 + 12x + 36 = (x+6)^2$       ⑤

$x^2 - 14x + 49 = (x-7)^2$       ⑥

$x^2 + 18x + 81 = (x+9)^2$       ⑦

$x^2 - 20x + 100 = (x-10)^2$       ⑧

$x^2 + 22x + 121 = (x+11)^2$       ⑨

$x^2 - 24x + 144 = (x-12)^2$       ⑩

$x^2 + 26x + 169 = (x+13)^2$       ⑪

$x^2 - 28x + 196 = (x-14)^2$       ⑫

$x^2 + 30x + 225 = (x+15)^2$       ⑬