

$$\textcircled{1} y = x^2 + 16x + 71$$

$$a = 1 \quad b = 16 \quad c = 71$$

$$f(x) = a(x-h)^2 + k$$

$$a = 1$$

$$h = -8$$

$$k = 7$$

$$x = \frac{-b}{2a}$$

$$x = \frac{-16}{2(1)}$$

$$x = -8$$

$$y = f\left(\frac{-b}{2a}\right) \quad y = f(-8)$$

$$y = (-8)^2 + 16(-8) + 71$$

$$y = 7$$

	x	8
x	x^2	$8x$
8	$8x$	64

$$f(x) = x^2 + 16x + 64 + 7$$

$$f(x) = x^2 + 16x + 71$$