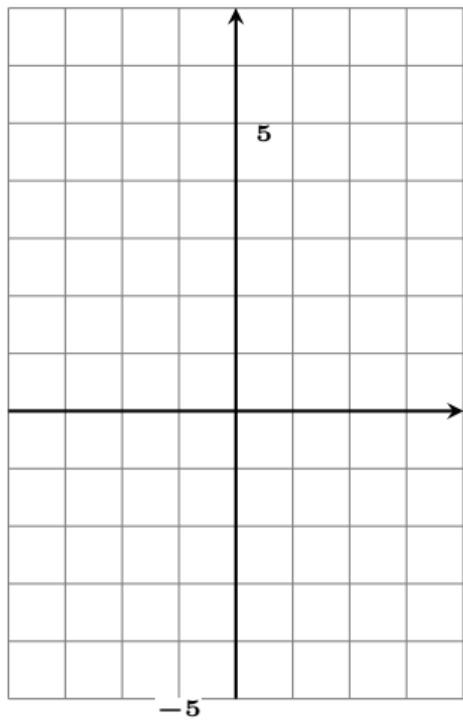
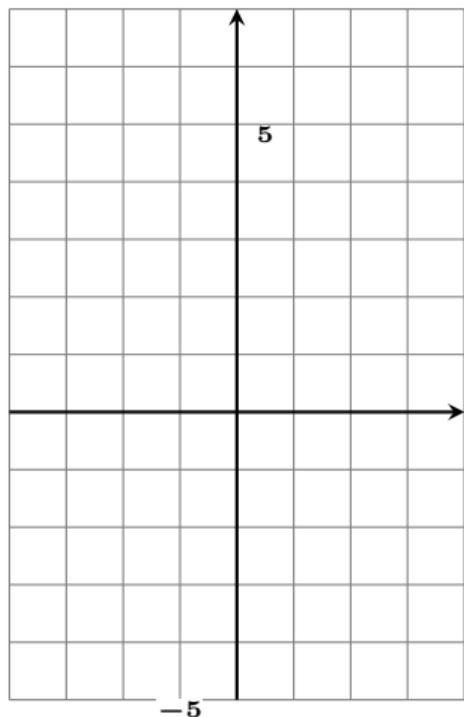


$y = 2x^2 + 4x - 1$ のグラフを描け #32 1

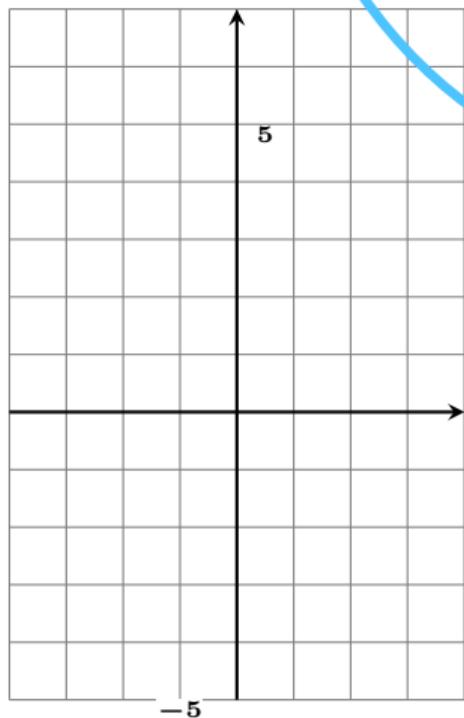


$y = 2x^2 + 4x - 1$ のグラフを描け #32 1



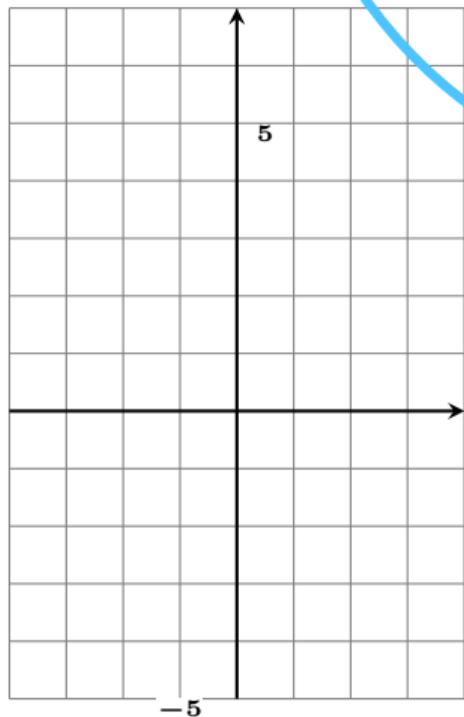
まず頂点の x 座標を計算する

$y = 2x^2 + 4x - 1$ のグラフを描け #32 1



$$\frac{4}{2} = 2$$

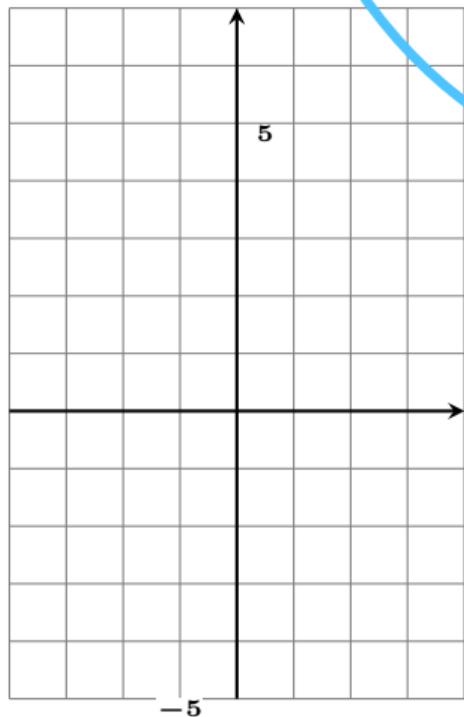
$y = 2x^2 + 4x - 1$ のグラフを描け #32 1



$$\frac{4}{2} = 2 \quad \left. \begin{array}{l} \text{+} \\ \text{-} \end{array} \right\} \text{逆}$$

-2

$y = 2x^2 + 4x - 1$ のグラフを描け #32 1



$$\frac{4}{2} = 2$$

+ - 逆

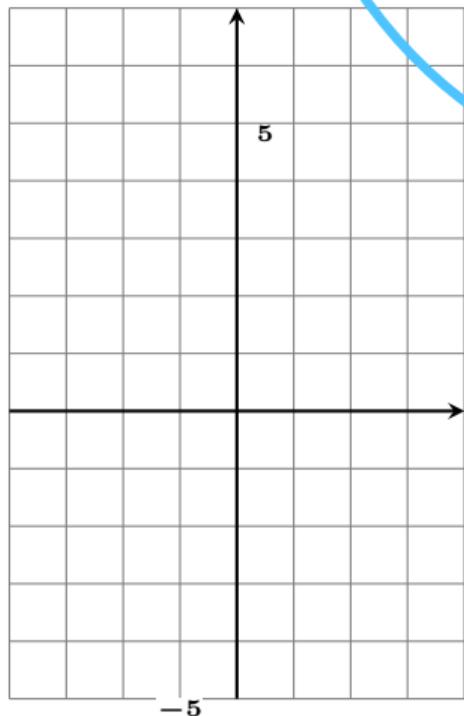
$$-2$$

÷ 2

$$-1$$

Diagram illustrating the process of completing the square for the quadratic equation $y = 2x^2 + 4x - 1$. The steps shown are: dividing the coefficient of x (4) by the coefficient of x^2 (2) to get 2; changing the sign to -2; and dividing that result by 2 to get -1. Arrows indicate the flow of information from the original equation to these steps.

$y = 2x^2 + 4x - 1$ のグラフを描け #32 ①



$$\frac{4}{2} = 2$$

+-逆

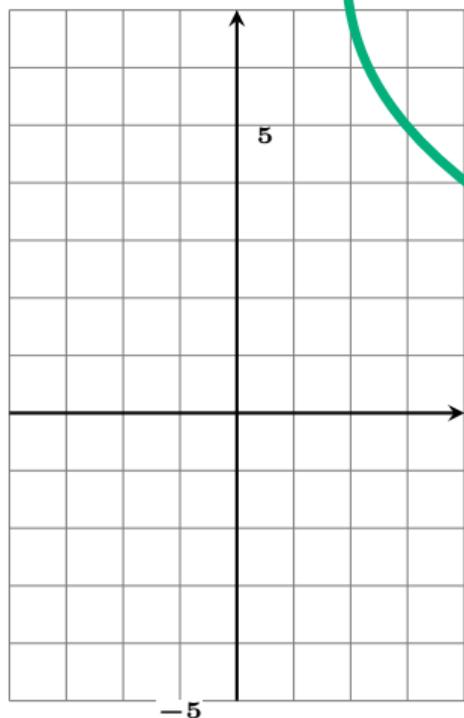
$$-2$$

÷2

$$-1$$

頂点 (-1 ,)

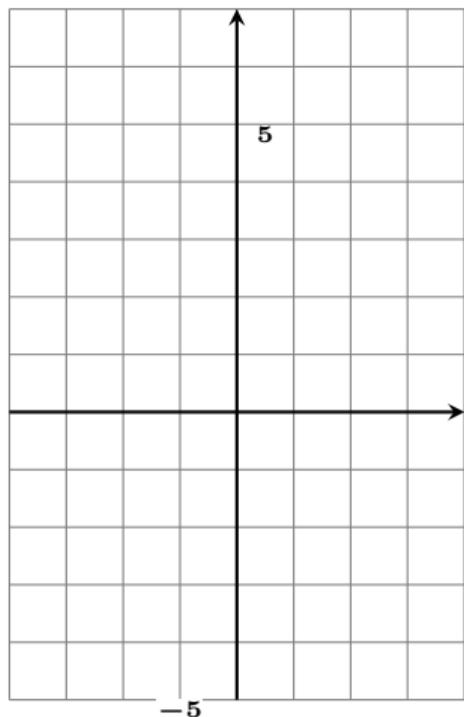
$y = 2x^2 + 4x - 1$ のグラフを描け #32 ①



次に頂点の y 座標を計算
したいので、式に代入する

頂点 (-1 ,)

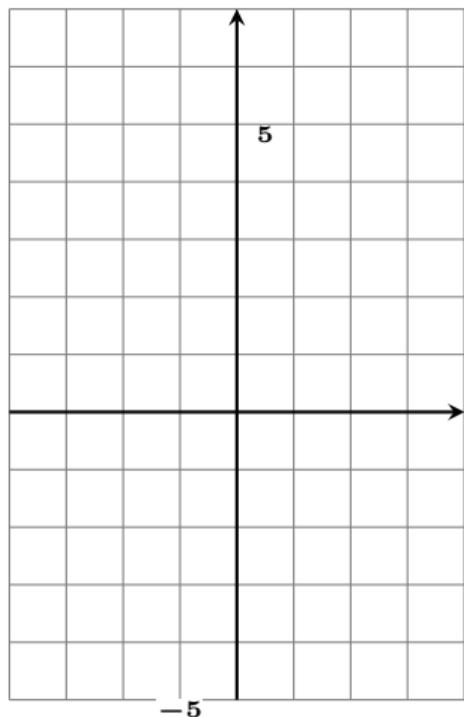
$y = 2x^2 + 4x - 1$ のグラフを描け #32 ①



$$y = 2 \times (-1)^2 + 4 \times (-1) - 1$$

頂点 $(-1, \quad)$

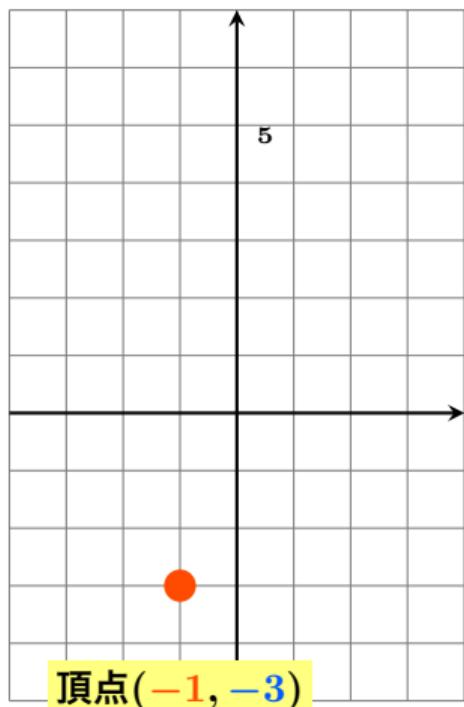
$y = 2x^2 + 4x - 1$ のグラフを描け #32 ①



$$\begin{aligned}y &= 2 \times (-1)^2 + 4 \times (-1) - 1 \\ &= 2 \quad - 4 \quad - 1 \\ &= -3\end{aligned}$$

頂点 $(-1, -3)$

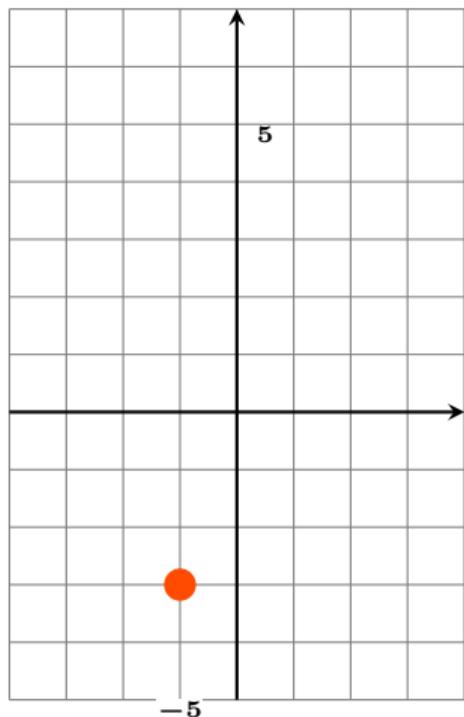
$y = 2x^2 + 4x - 1$ のグラフを描け #32 1



$$\begin{aligned} y &= 2 \times (-1)^2 + 4 \times (-1) - 1 \\ &= 2 \quad - 4 \quad - 1 \\ &= -3 \end{aligned}$$

頂点 (-1, -3)

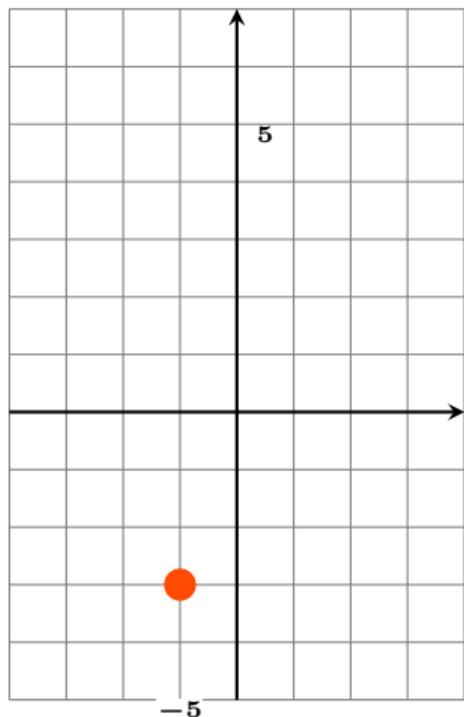
$y = 2x^2 + 4x - 1$ のグラフを描け #32 1



$$y = 2x^2 \neq 4x - 1 \text{ なので}$$

頂点 $(-1, -3)$

$y = 2x^2 + 4x - 1$ のグラフを描け #32 ①



$$y = 2x^2 \neq 4x - 1 \text{ なので}$$

1

$$2 \times 1^2$$

2

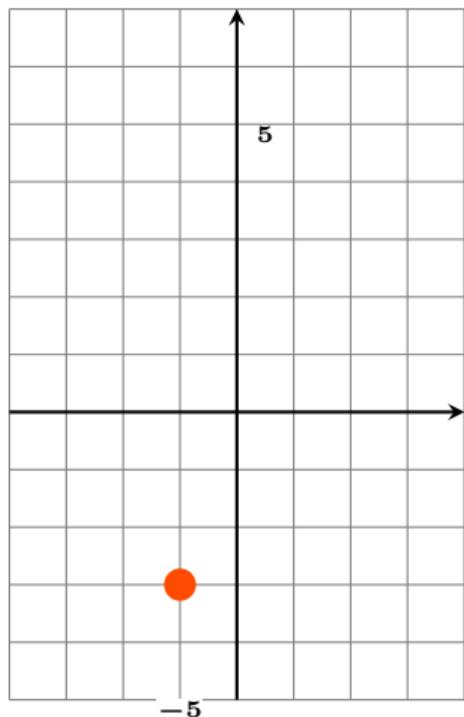
$$2 \times 2^2$$

3

$$2 \times 3^2$$

頂点 ($-1, -3$)

$y = 2x^2 + 4x - 1$ のグラフを描け #32 1



$$y = 2x^2 \neq 4x - 1 \text{ なので}$$

1

2

3

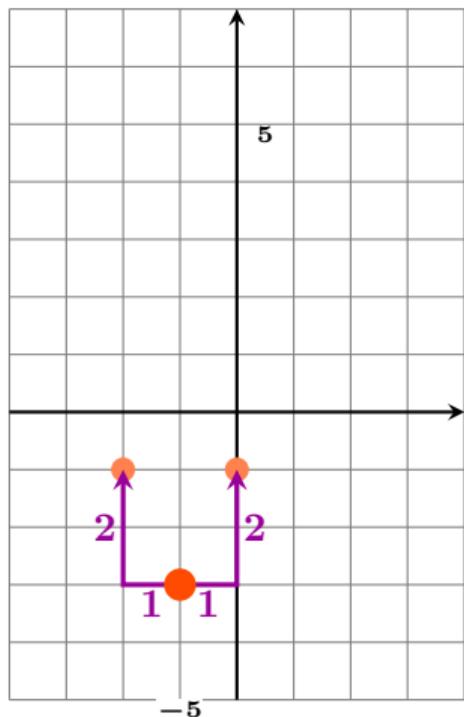
2

8

18

頂点 ($-1, -3$)

$y = 2x^2 + 4x - 1$ のグラフを描け #32 1



$y = 2x^2$ ~~$= 4x - 1$~~ なので

1

2

3

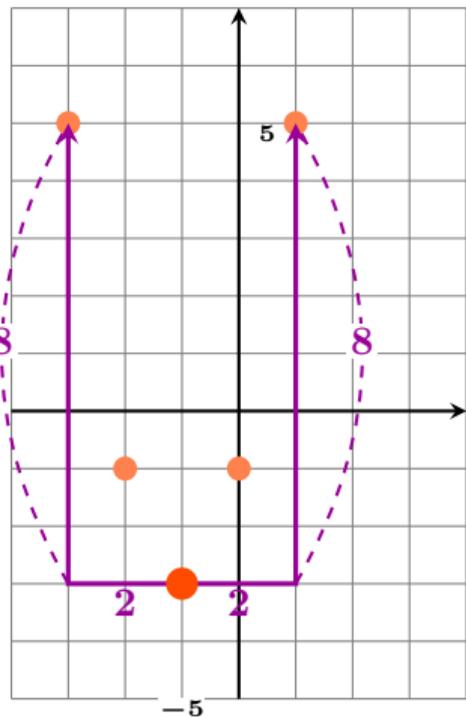
2

8

18

頂点 $(-1, -3)$

$y = 2x^2 + 4x - 1$ のグラフを描け #32 1



$y = 2x^2$ ~~$= 4x - 1$~~ なので

1

2

3

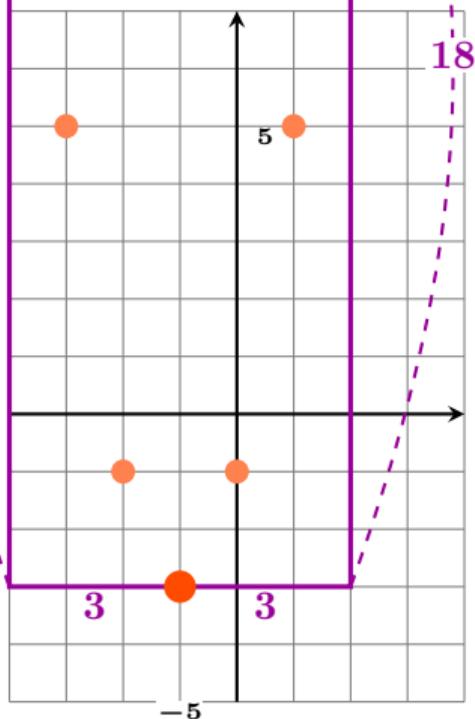
2

8

18

頂点 $(-1, -3)$

$y = 2x^2 + 4x - 1$ のグラフを描け #32 1



$y = 2x^2$ ~~$= 4x - 1$~~ なので

1

2

3

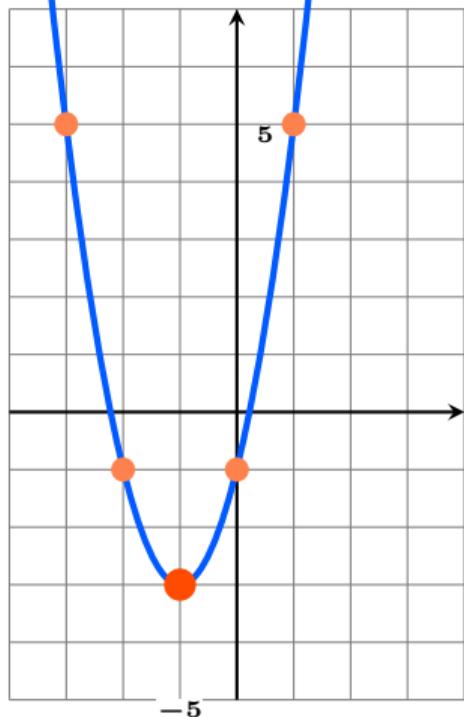
2

8

18

頂点 $(-1, -3)$

$y = 2x^2 + 4x - 1$ のグラフを描け #32 ①



$y = 2x^2 \neq 4x - 1$ なので

1

2

3

2

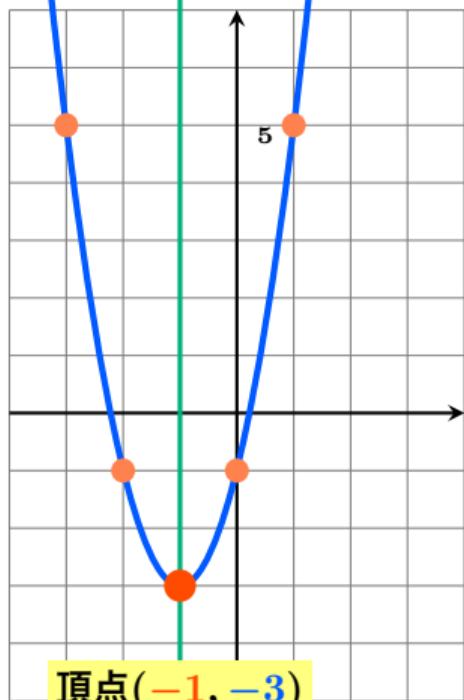
8

18

頂点 $(-1, -3)$

$y = 2x^2 + 4x - 1$ のグラフを描け #32 ①

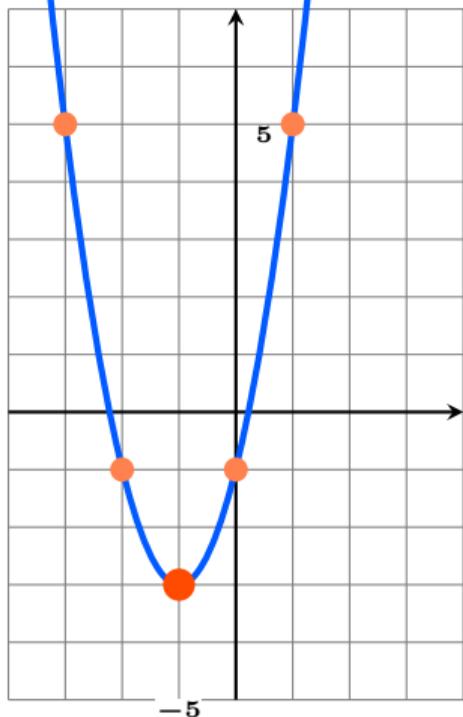
軸 $x = -1$



$y = 2x^2$ ~~$= 4x - 1$~~ なので

頂点 $(-1, -3)$

$y = 2x^2 + 4x - 1$ のグラフを描け #32 ①



$$y = 2x^2 + 4x - 1 \text{ なので}$$

$$= 2(x \quad)^2$$

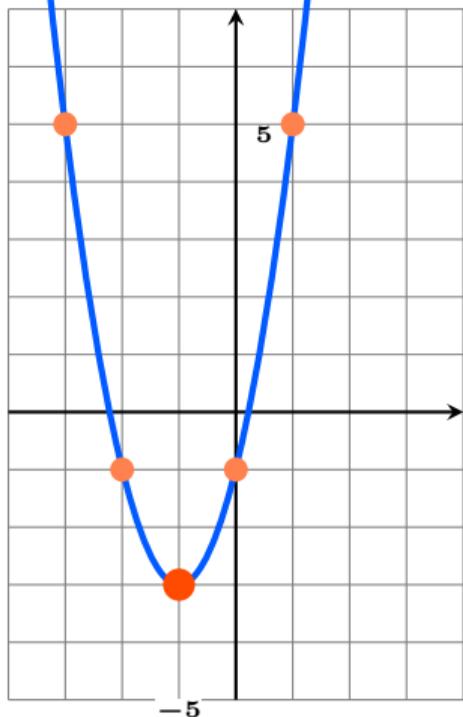
平方完成は
こうなる

逆

そのまま

$$\text{頂点 } (-1, -3)$$

$y = 2x^2 + 4x - 1$ のグラフを描け #32 ①



$$y = 2x^2 + 4x - 1 \text{ なので}$$

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

平方完成は
こうなる

逆

そのまま

$$\text{頂点 } (-1, -3)$$