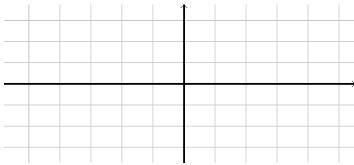


Example: Sketch the graph of:

$$y = f(x) = x^2 + 4x + 5$$



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• Recall: To graph a quadratic, we need to find the important points:

y-int

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x-int

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vertex

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y-int: (0,5)
$$x = 0 \Rightarrow y = 0^2 + 4 \cdot 0 + 5 = 5$$
 $y = 0$ vertex

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vertex

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-int
 $y = 0 \Rightarrow 0 = x^2 + 4x + 5$
Using the Quadratic Formula

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x-int $y = 0 \Rightarrow 0 = x^2 + 4x + 5$ Using the Quadratic Formula

But there are no solutions

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vertex
h

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vertex
 $h = \frac{-b}{2a}$

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vertex
 $h = \frac{-b}{2^a} = \frac{-4}{2 \cdot 1}$

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vertex
 $h = \frac{-b}{2a} = \frac{-4}{21} = -2$

x-int: none $y = 0 \Rightarrow 0 = x^2 + 4x + 5$ Using the Quadratic Formula But there are no solutions

So, there are no \times -int

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k = f(h)

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Using the Quadratic Formula

Example: Sketch the graph of:

$$y = f(x) = x^{2} + 4x + 5$$

6

-4

-2

0

2

-4

-2

-4

-6

• Recall: To graph a quadratic, we need to find the important points:

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$$(0,5) = 4$$

$$-4 \qquad -2 \qquad 0 \qquad 2 \qquad 4$$

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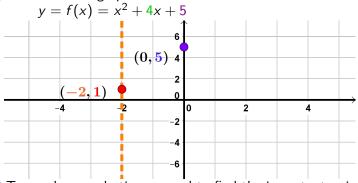
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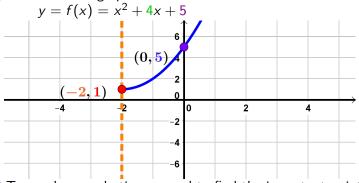
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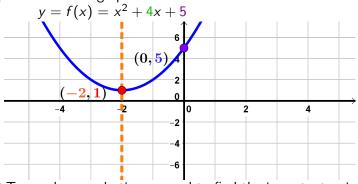
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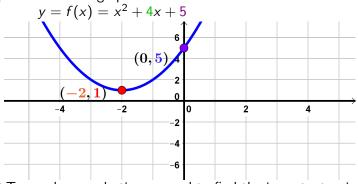
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