2.5) $y = |f(x)|$ and $y = f(|x|)$

Worked example

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

Sketch:

- $y = |f(x)|$

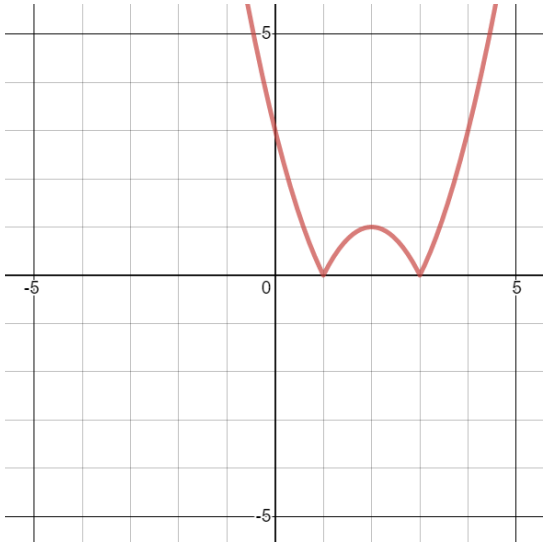
- $y = f(|x|)$

Your turn

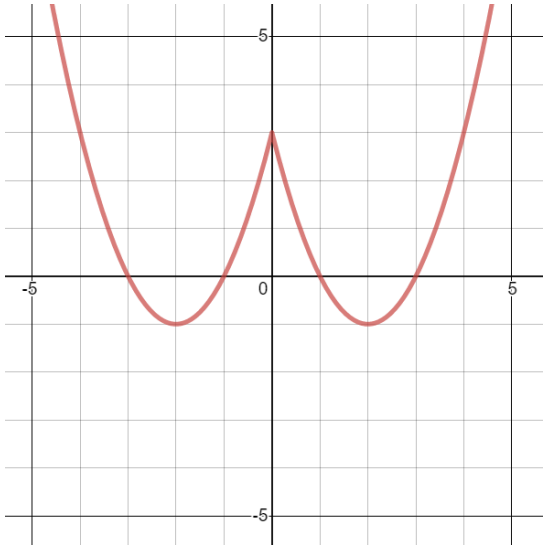
$f(x) = x^2 - 4x + 3$

Sketch:

- $y = |f(x)|$



- $y = f(|x|)$



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Worked example

$f(x) = x^2 + 3x - 10$

Sketch:

- $y = |f(x)|$

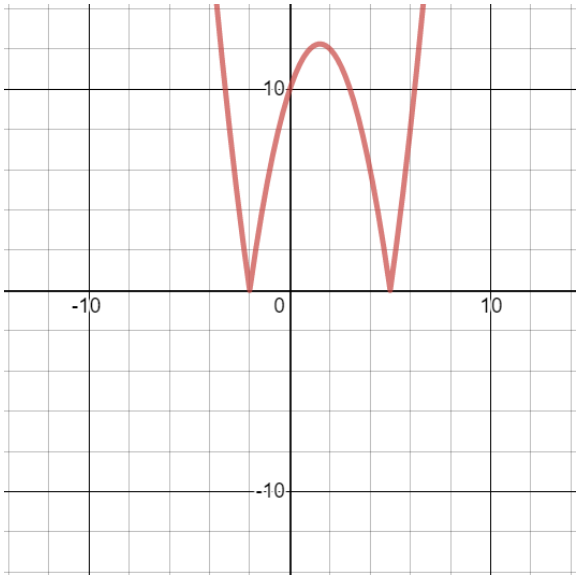
- $y = f(|x|)$

Your turn

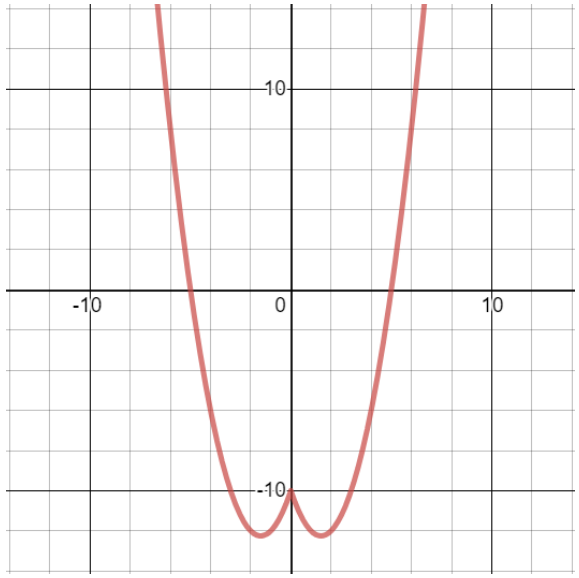
$f(x) = x^2 - 3x - 10$

Sketch:

- $y = |f(x)|$



- $y = f(|x|)$



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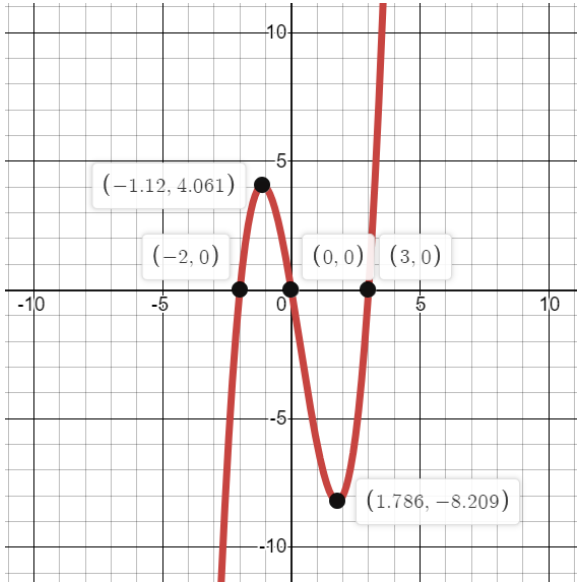
Worked example

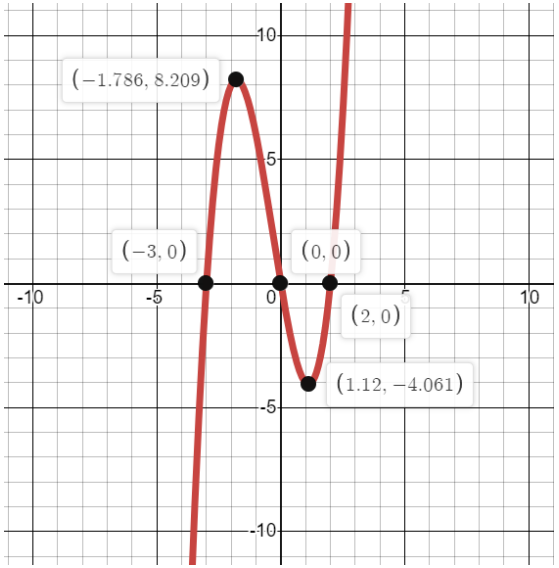
A sketch of $y = f(x)$ is shown.



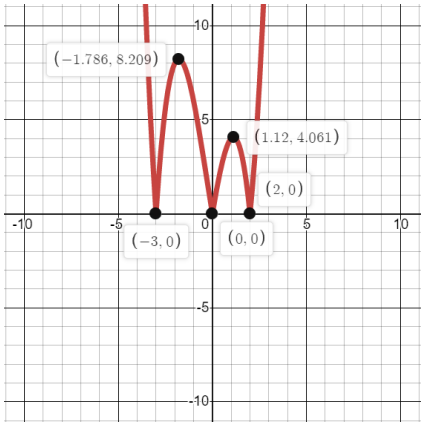
Sketch $y = |f(x)|$ and $y = f(|x|)$ on separate axes.

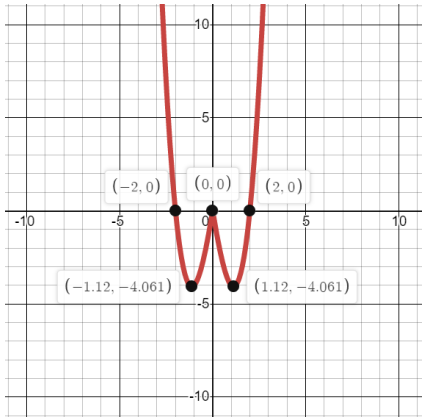
Your turn

A sketch of $y = f(x)$ is shown.



Sketch $y = |f(x)|$ and $y = f(|x|)$ on separate axes.





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Worked example

$y = \cos x\,, \qquad -2\pi \leq x \leq 2\pi$

Sketch:

- $y = |\cos x\,|$

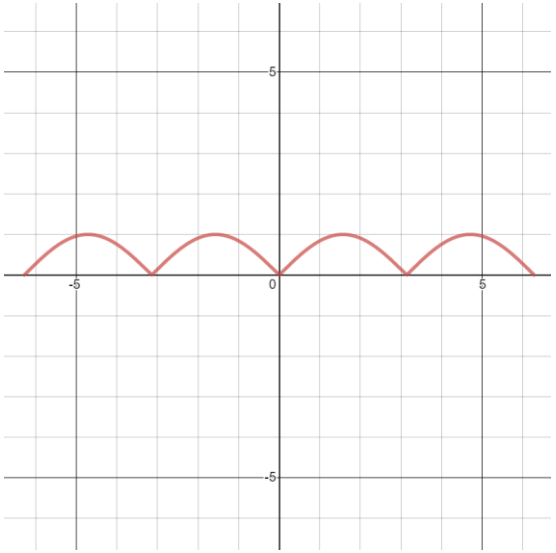
- $y = \cos |x|$

Your turn

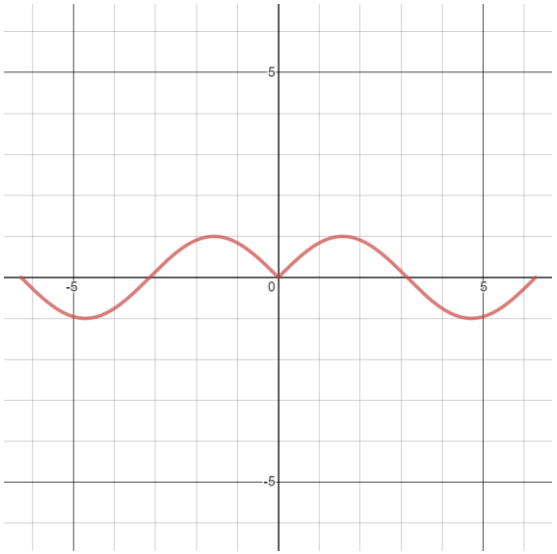
$y = \sin x\,, \qquad -2\pi \leq x \leq 2\pi$

Sketch:

- $y = |\sin x\,|$



- $y = \sin |x|$



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