Precalculus
The inequality $b \geq \sin\theta \geq a$

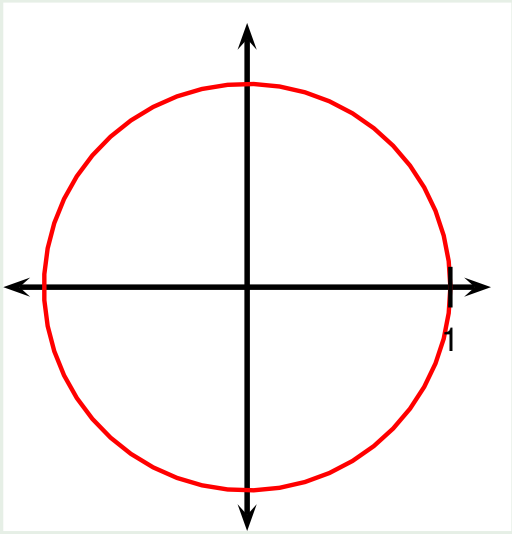
Todor Milev

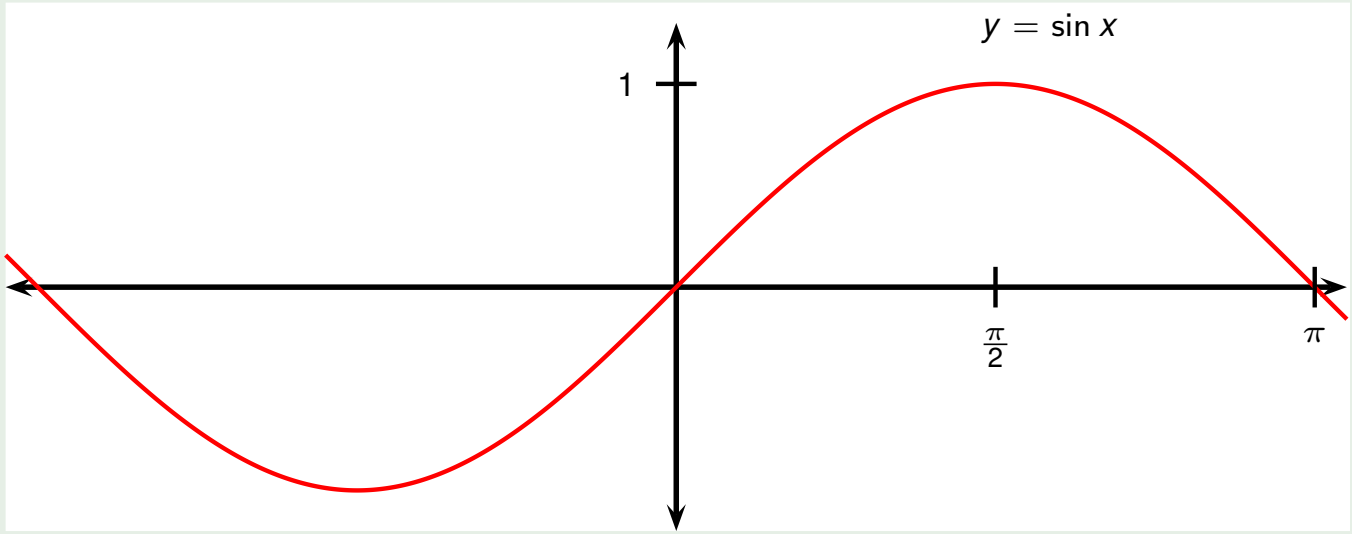
2019

Example

Solve. Among your solutions, find those between $-360°$ and $450°$.

$\frac{1}{2} \leq \sin\theta < \frac{\sqrt{3}}{2}$





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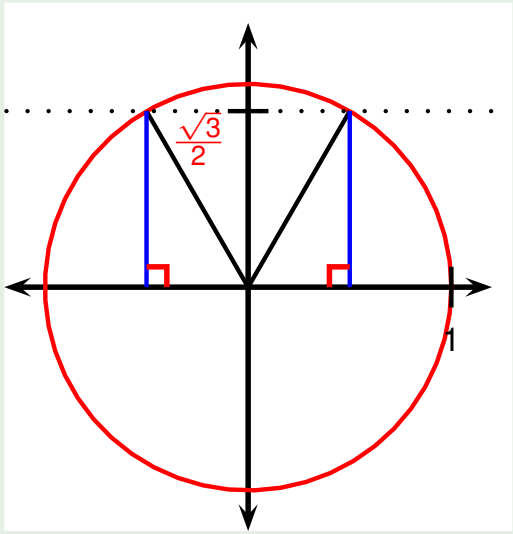

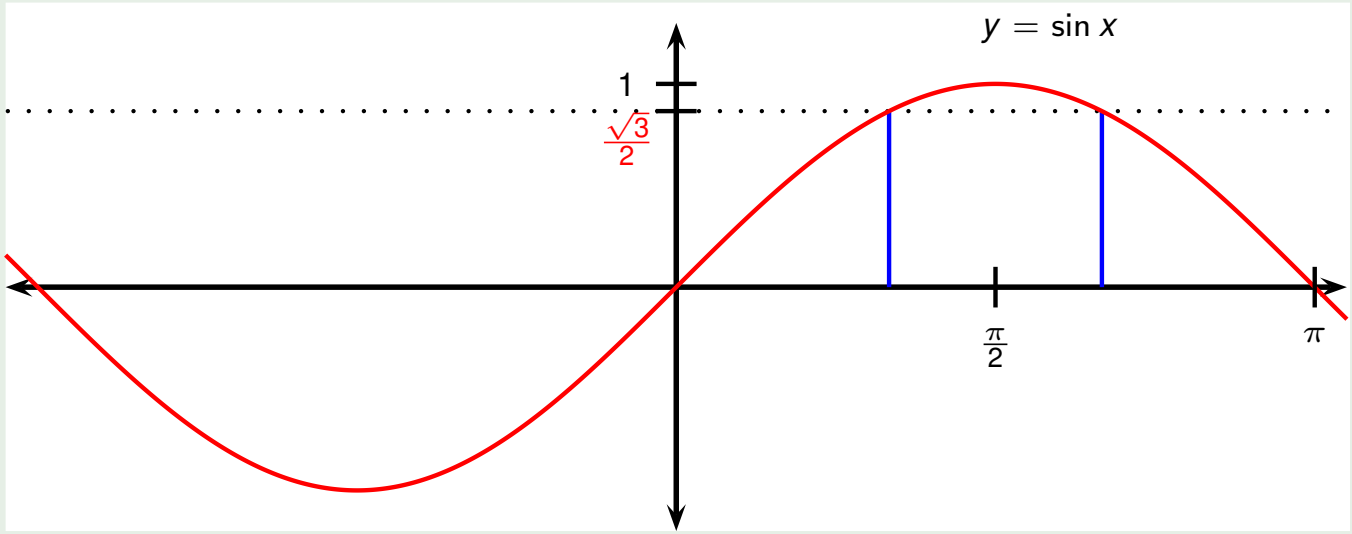

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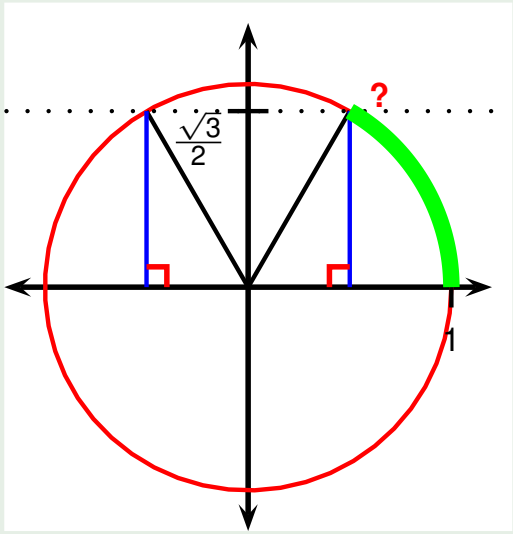

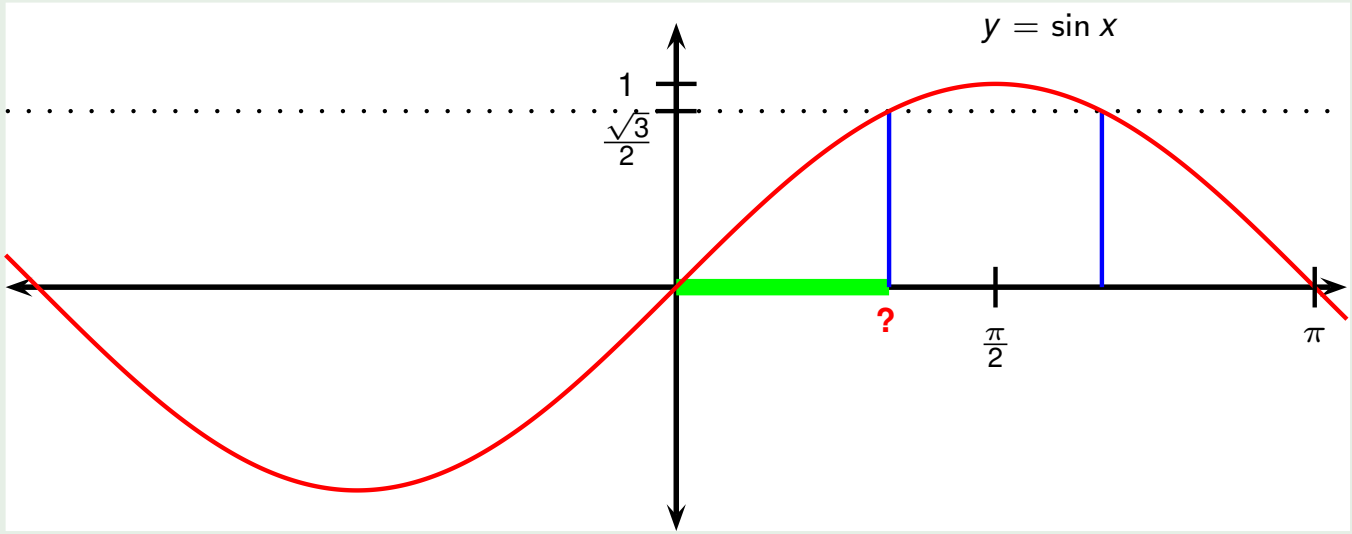

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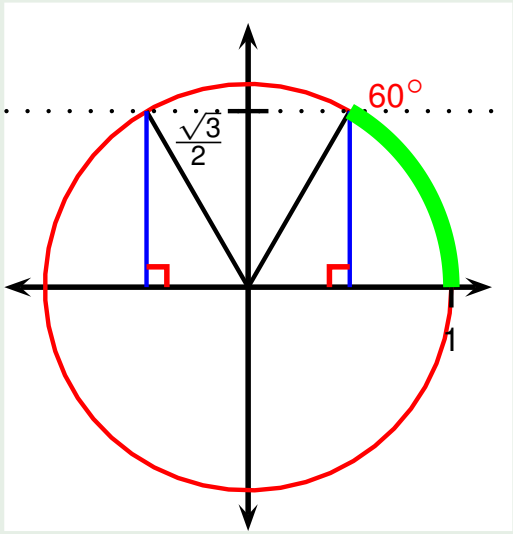

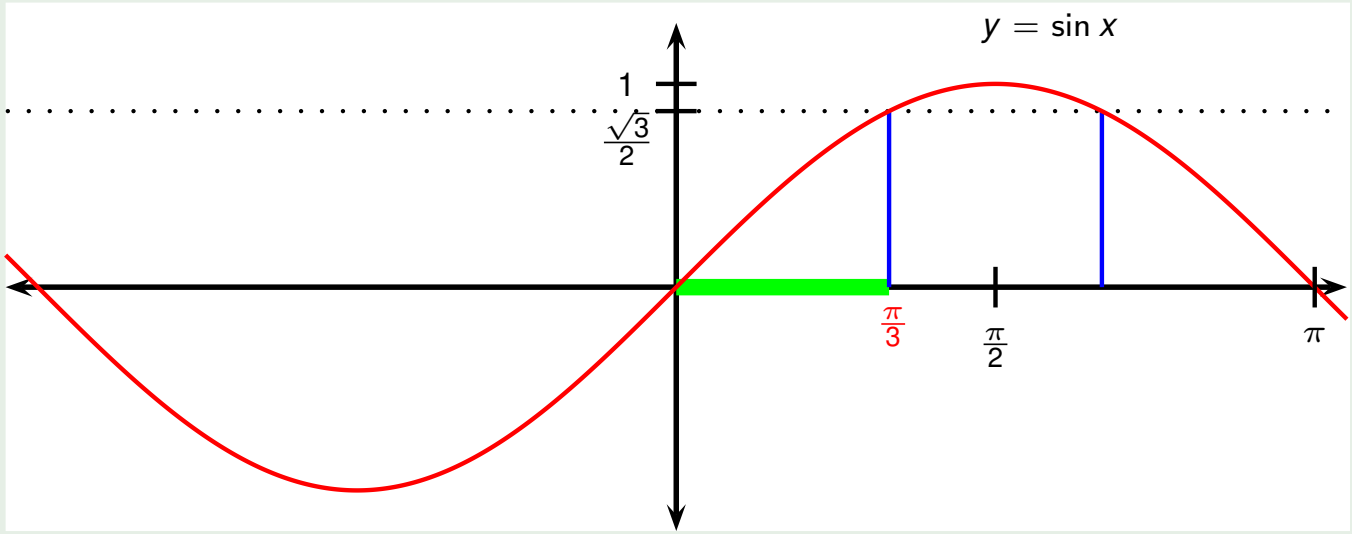

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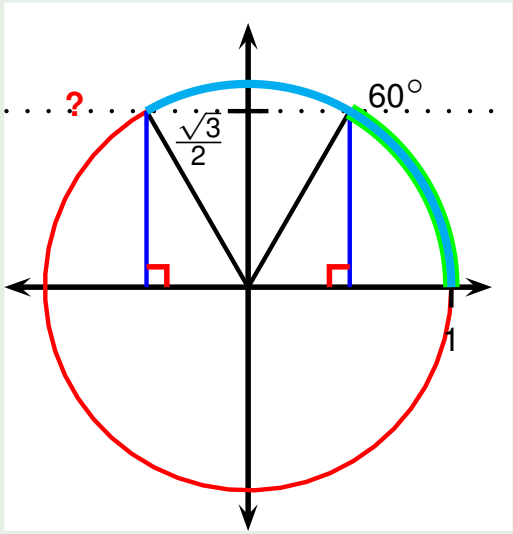

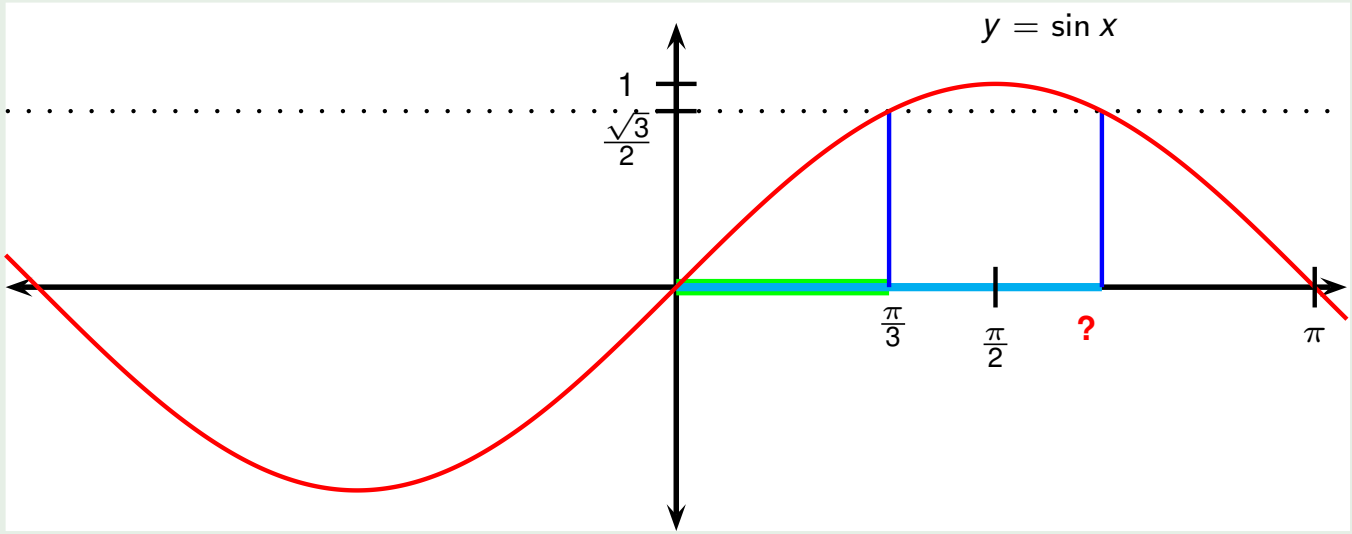

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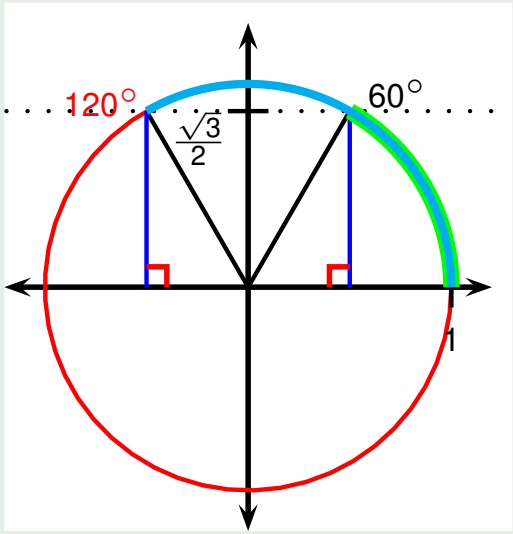

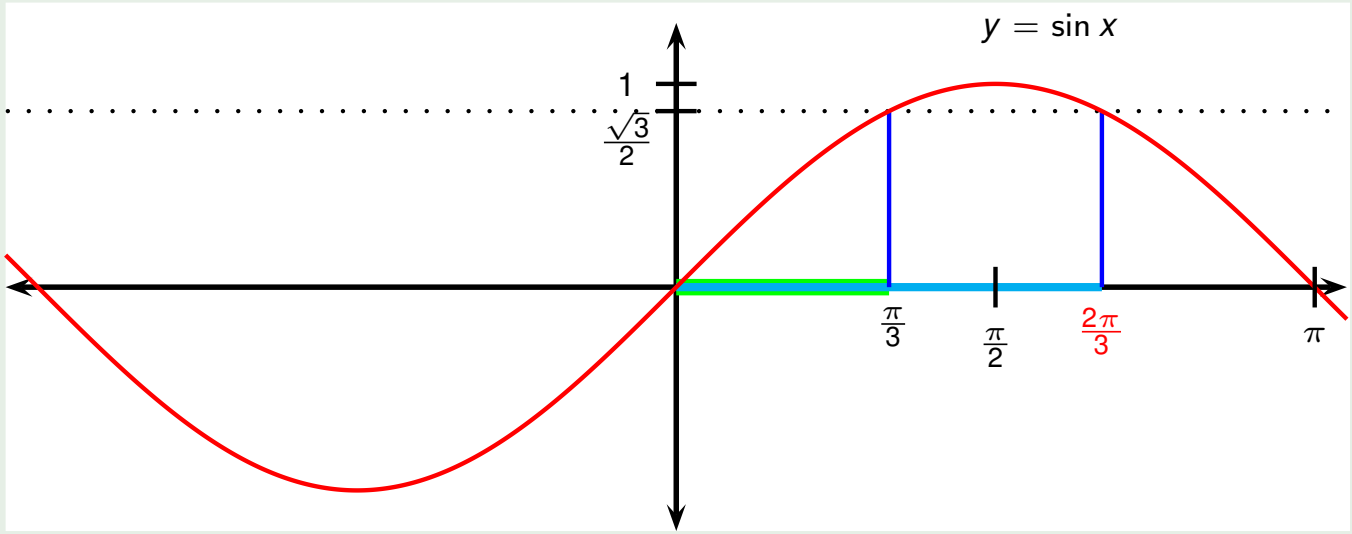

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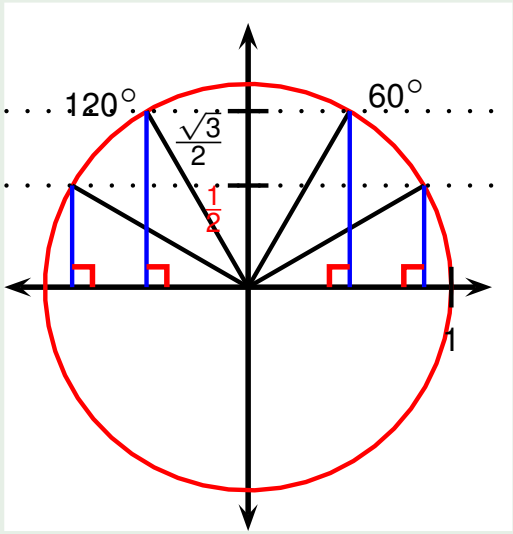

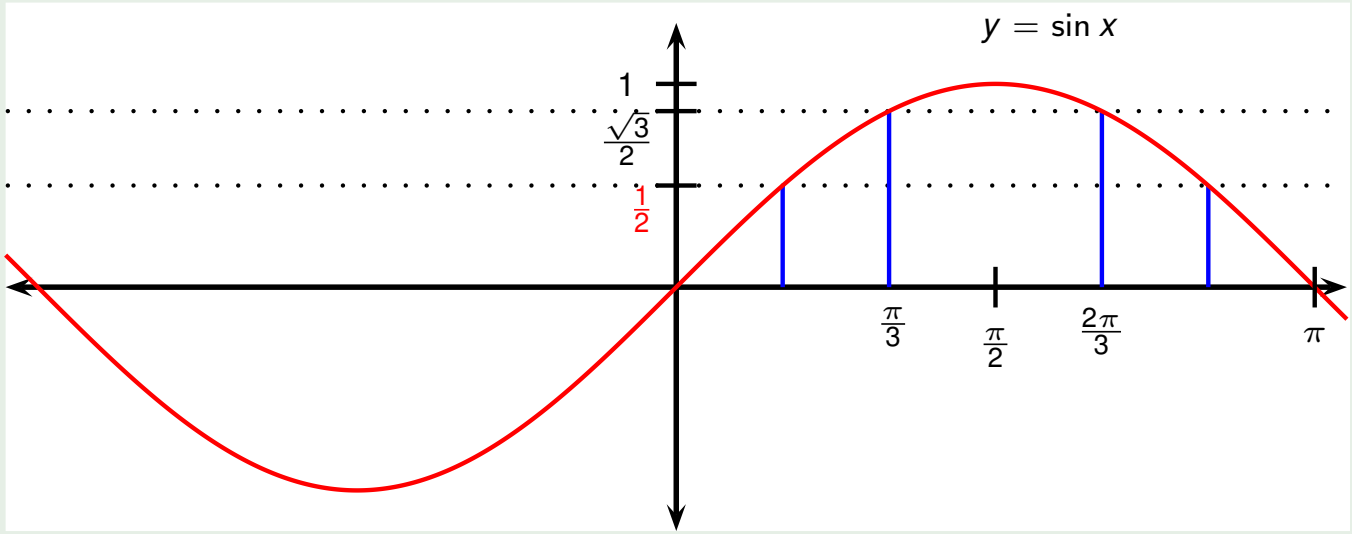

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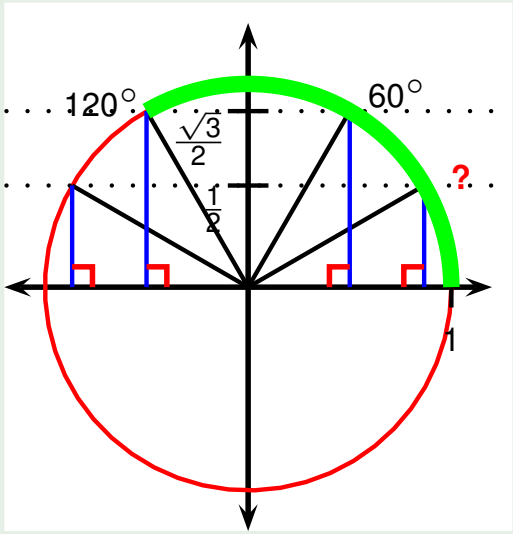

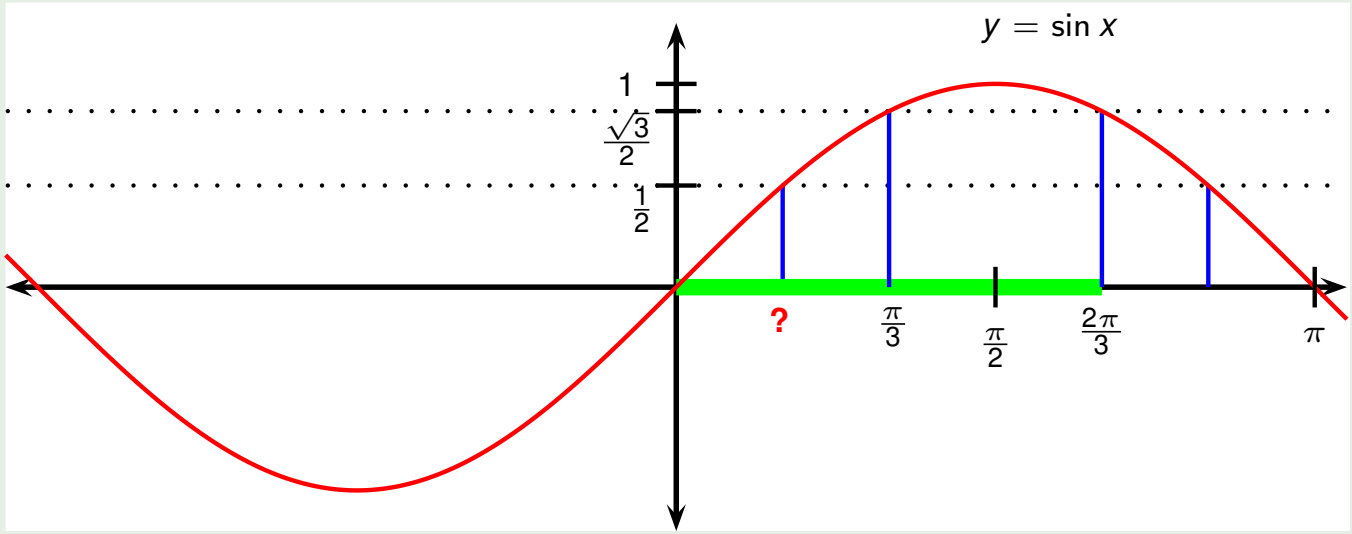

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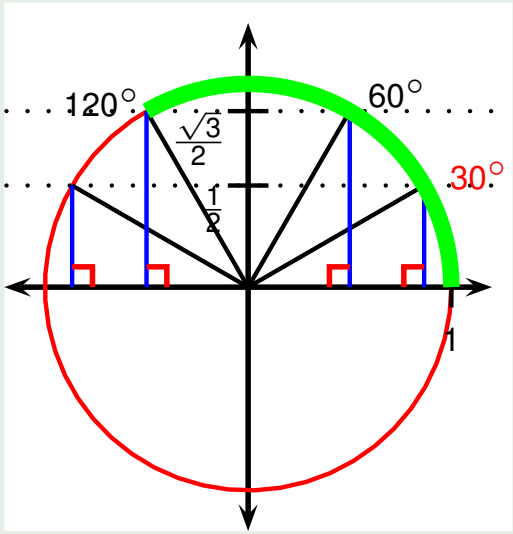

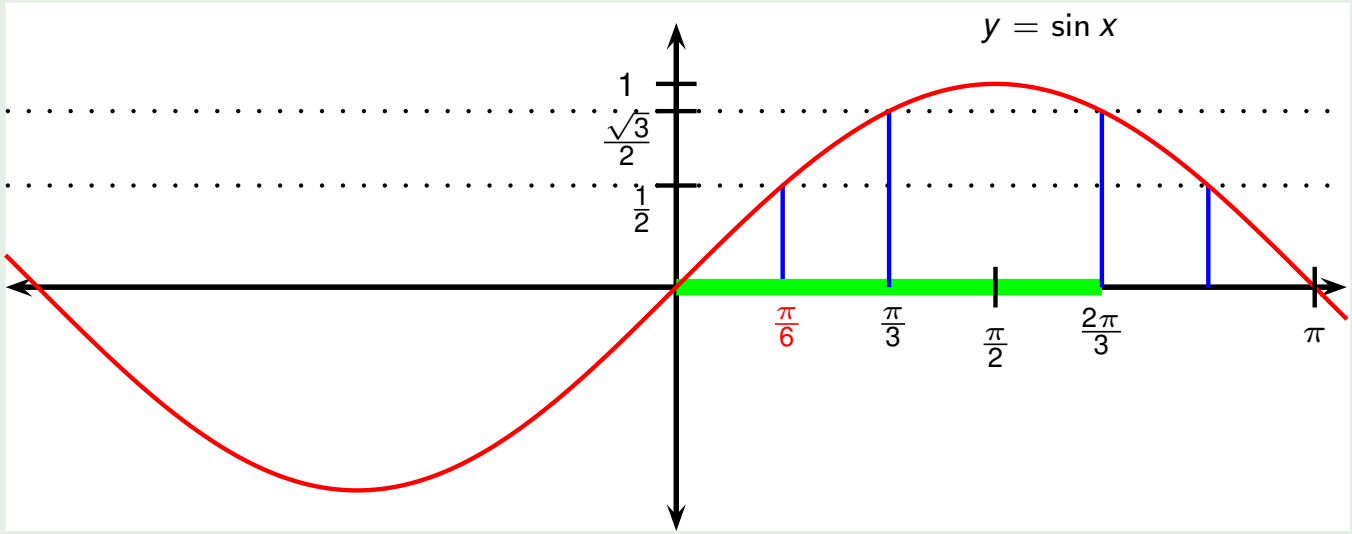

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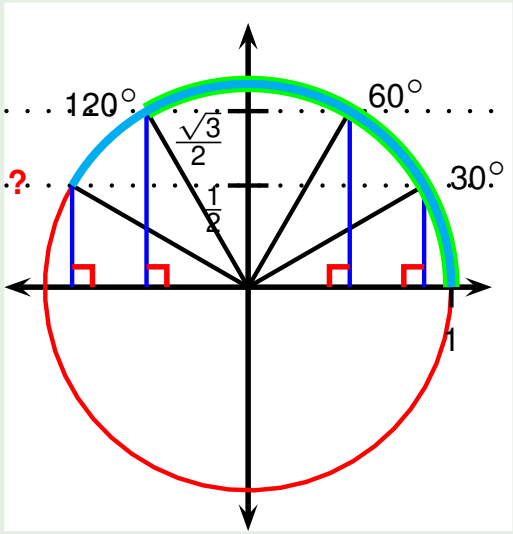

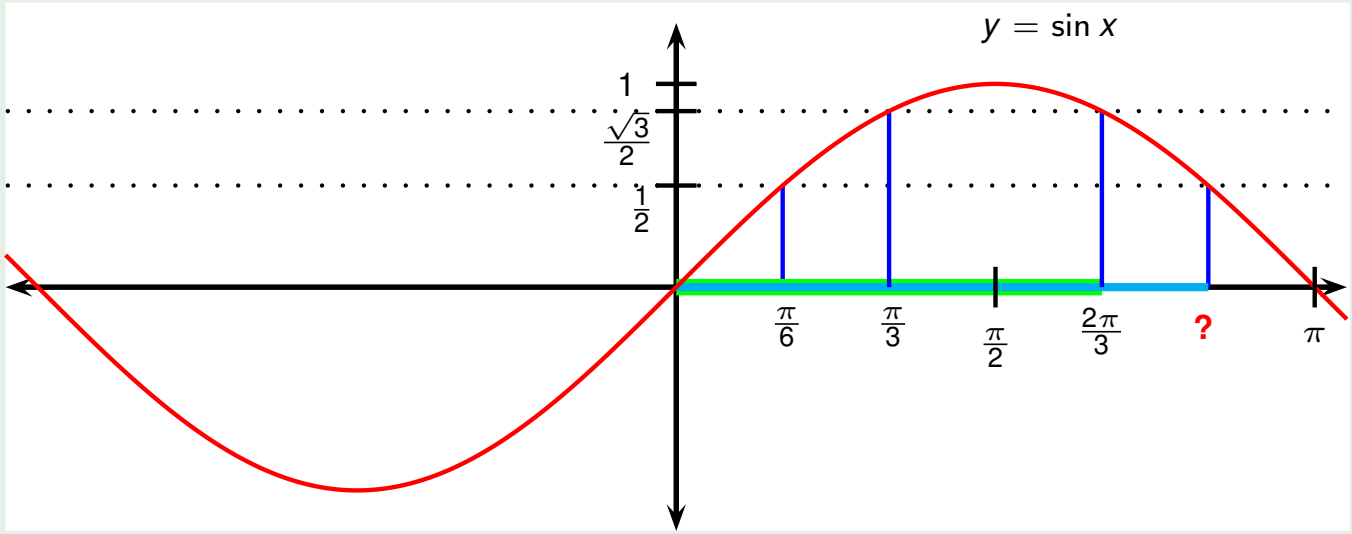

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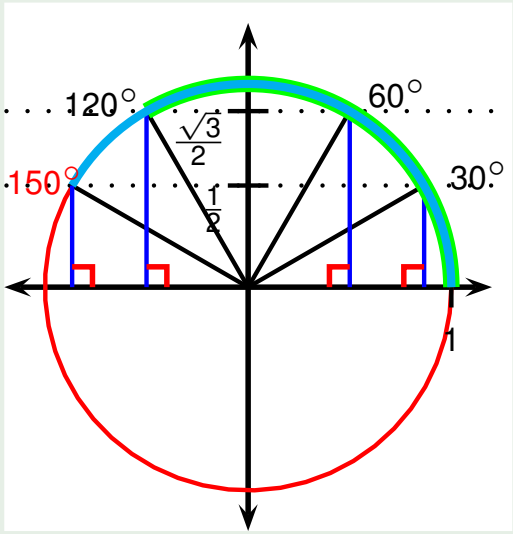

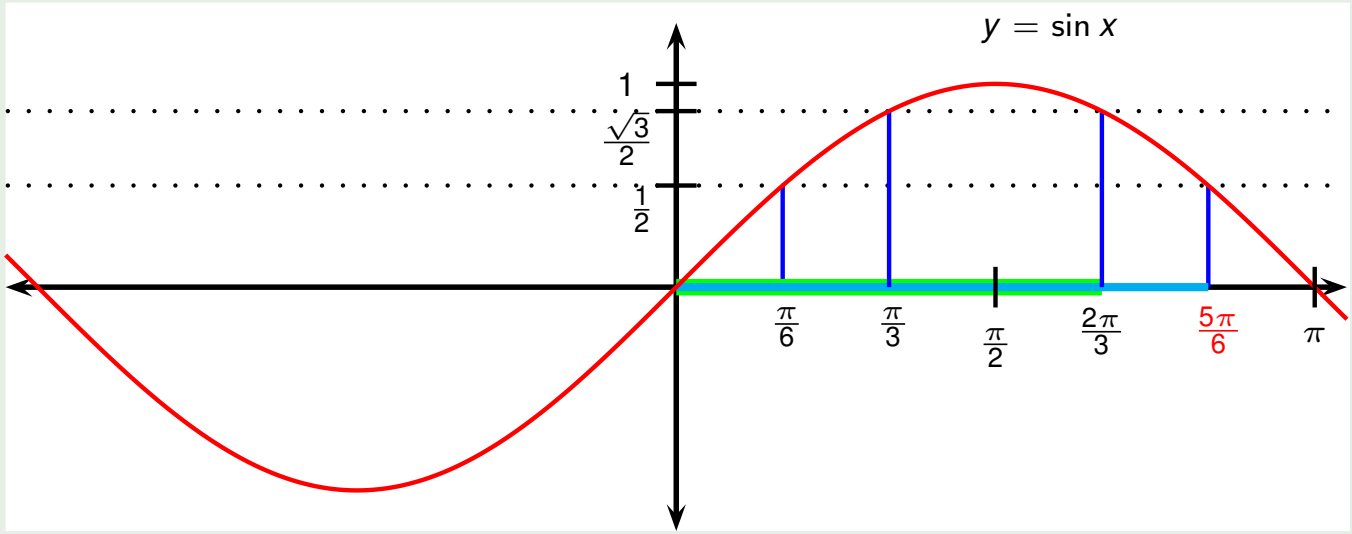

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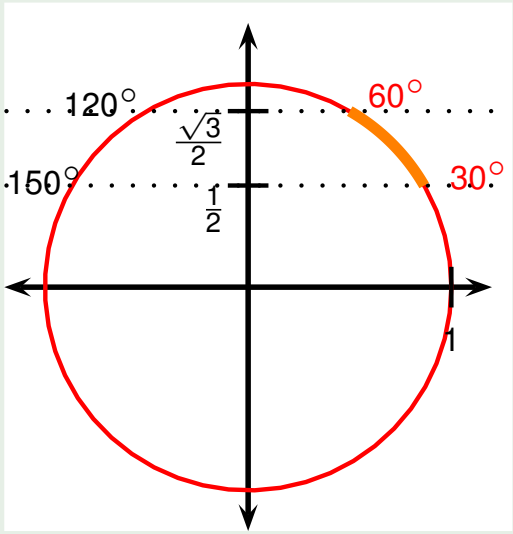

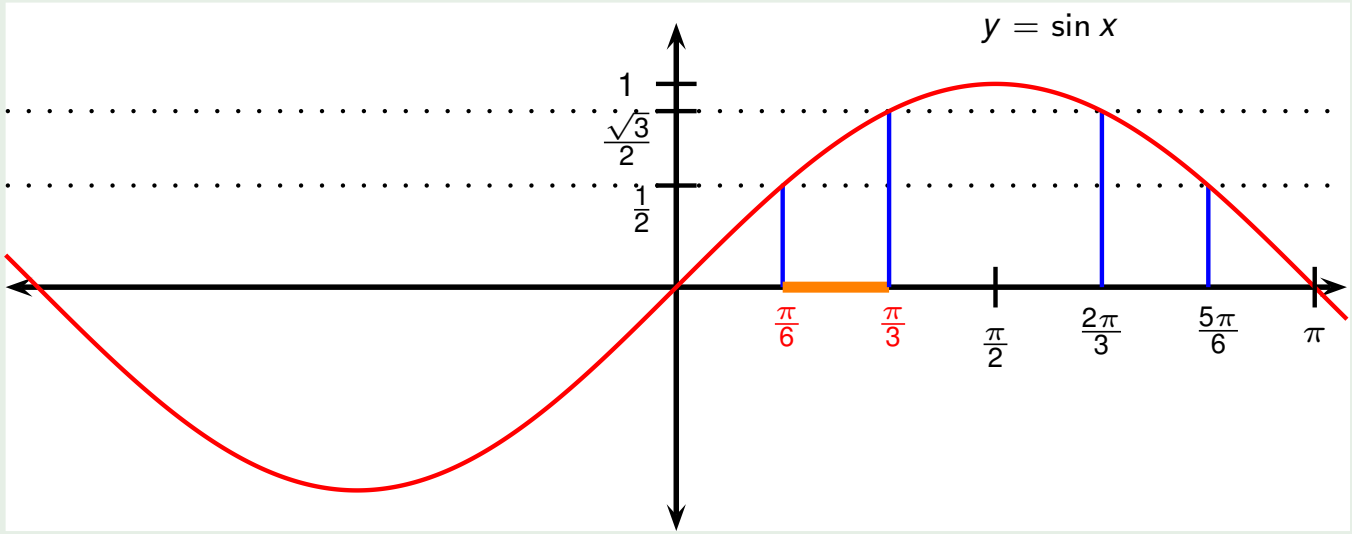

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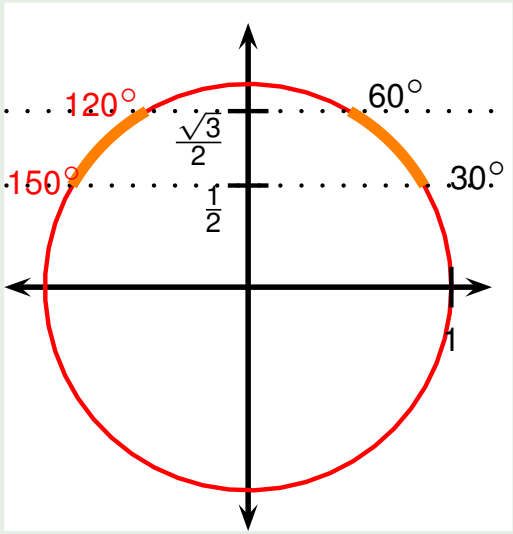

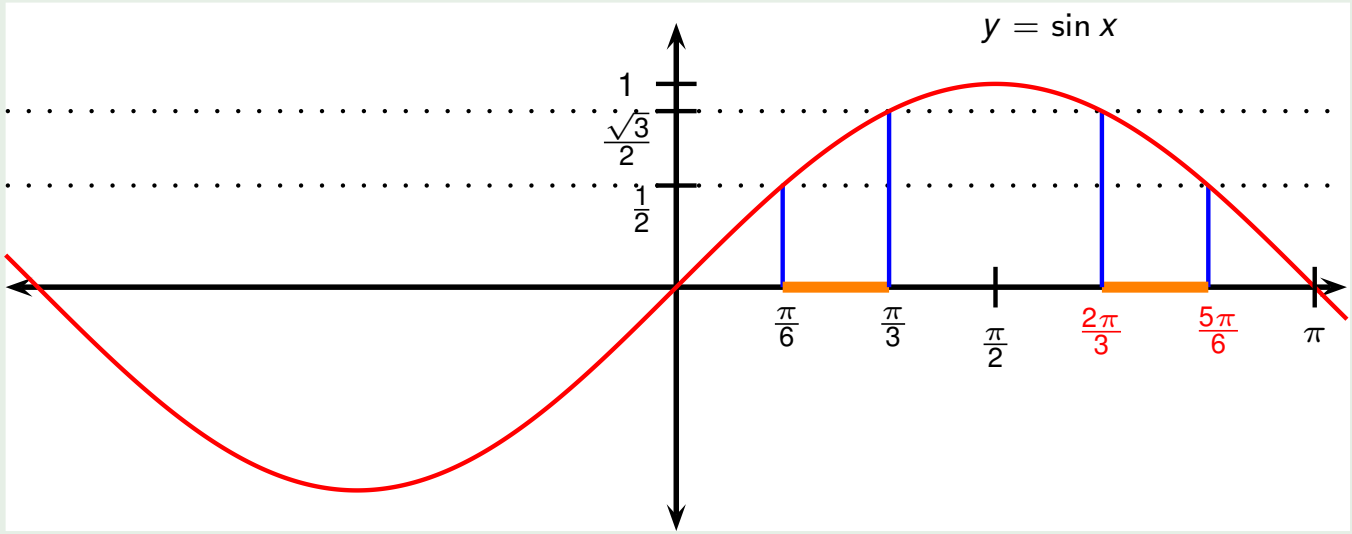

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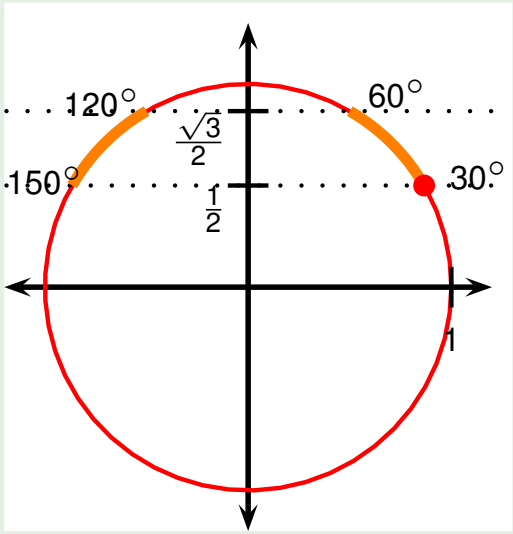

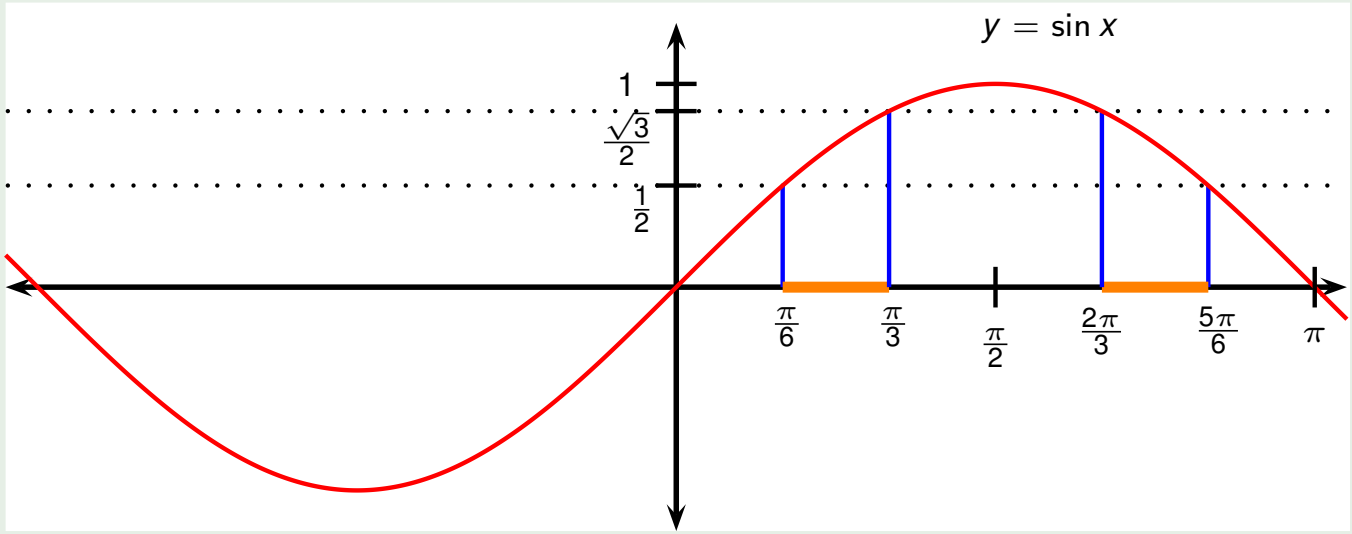

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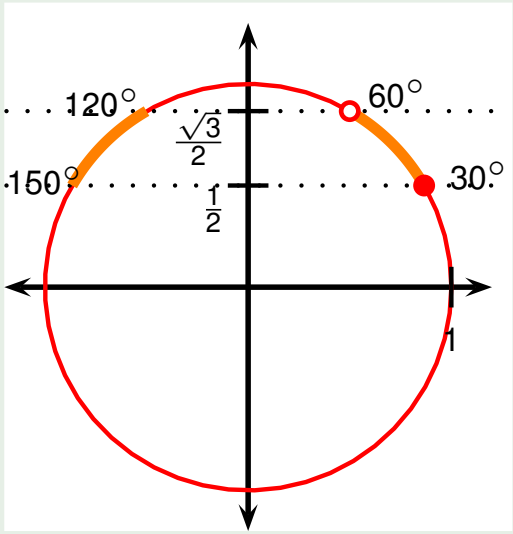

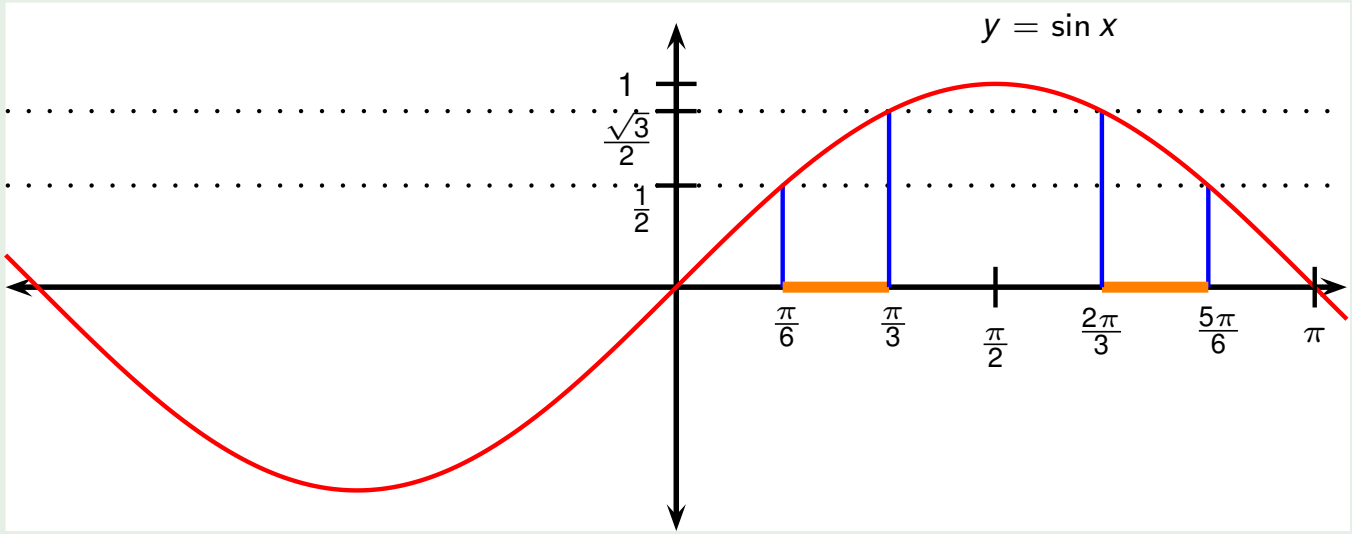

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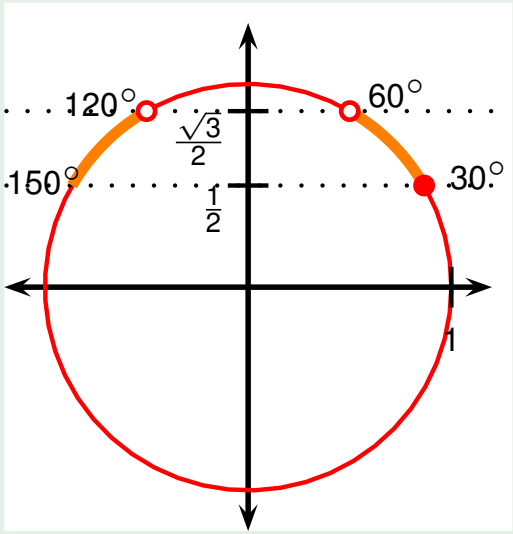

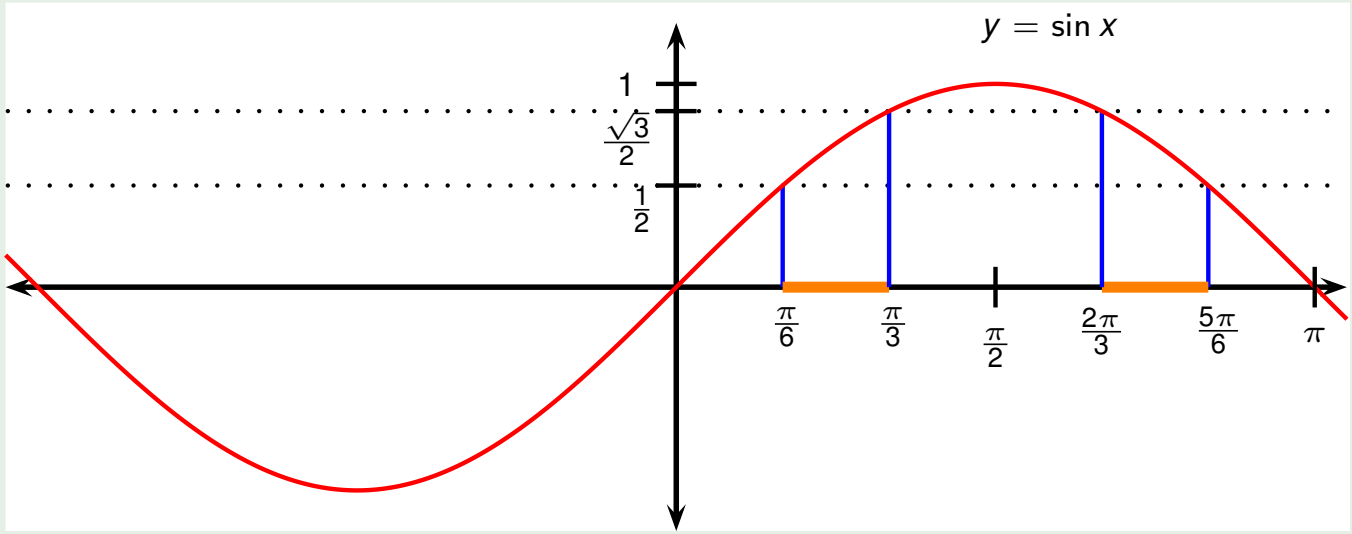

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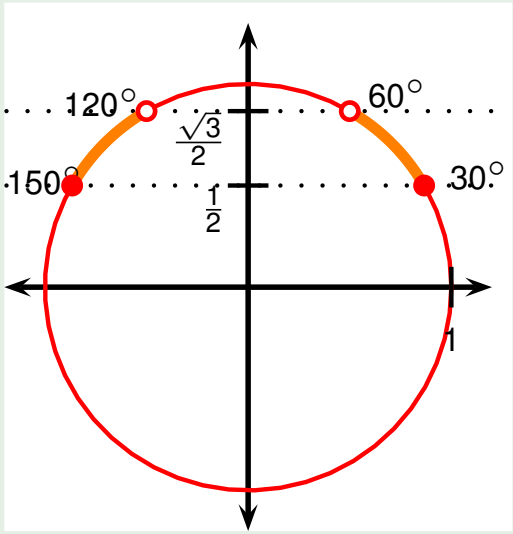

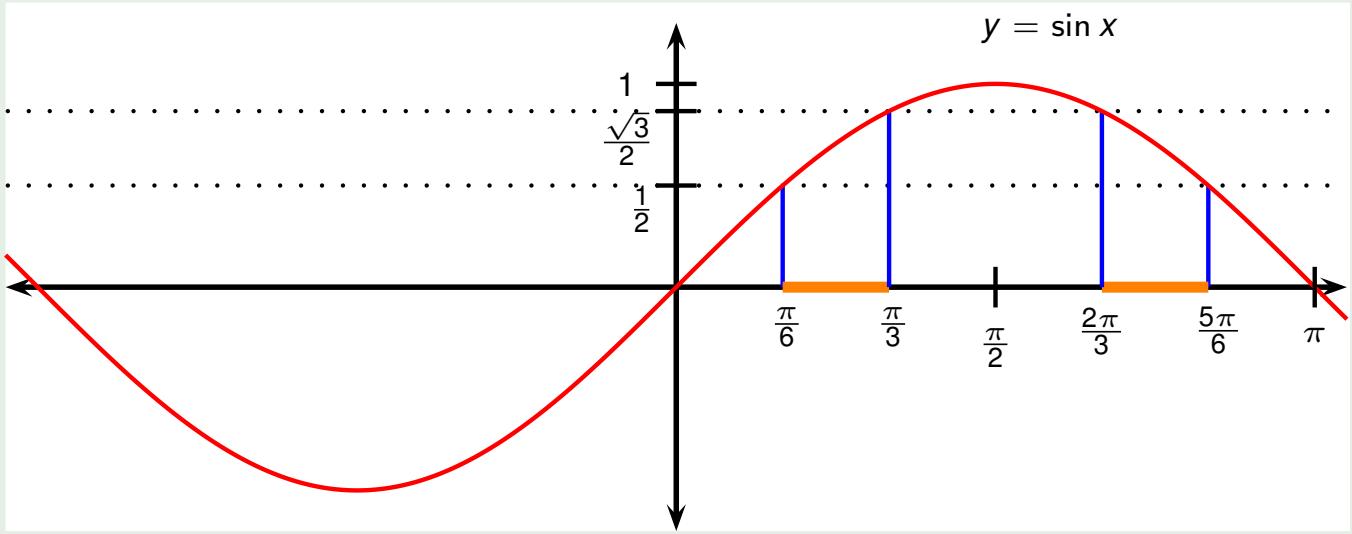

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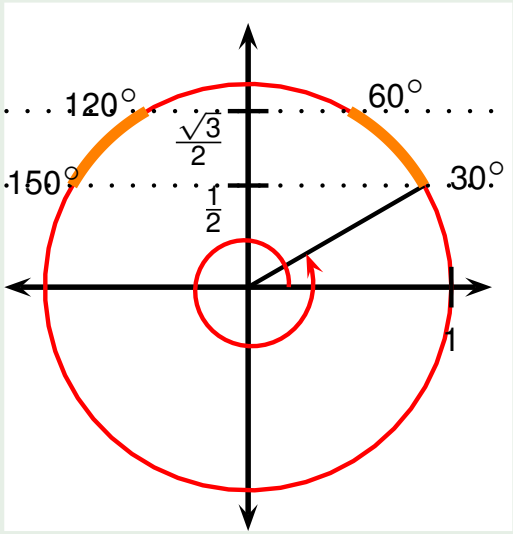

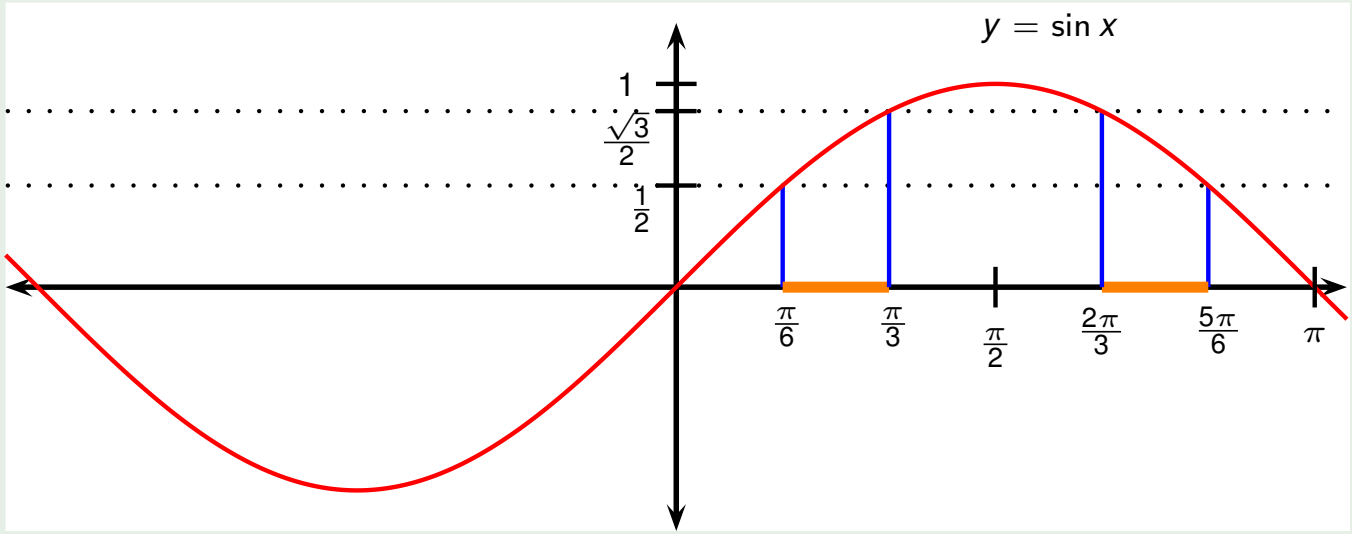

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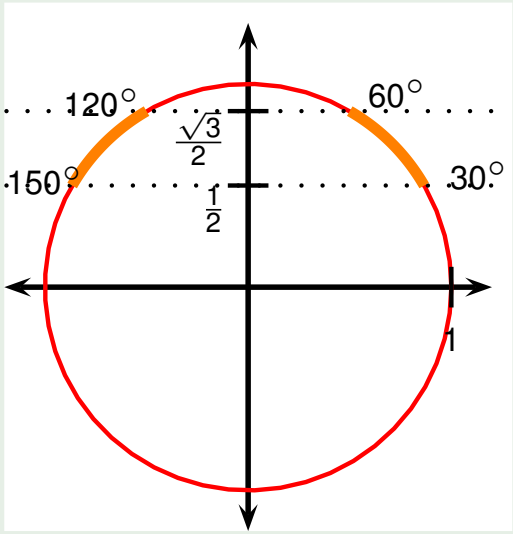

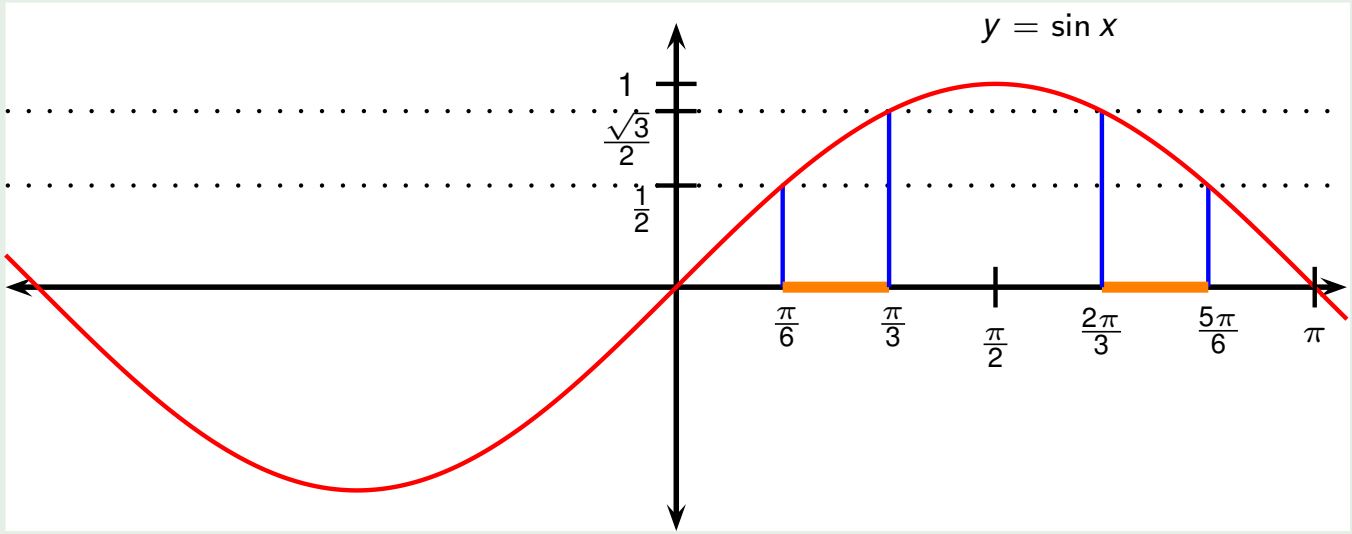

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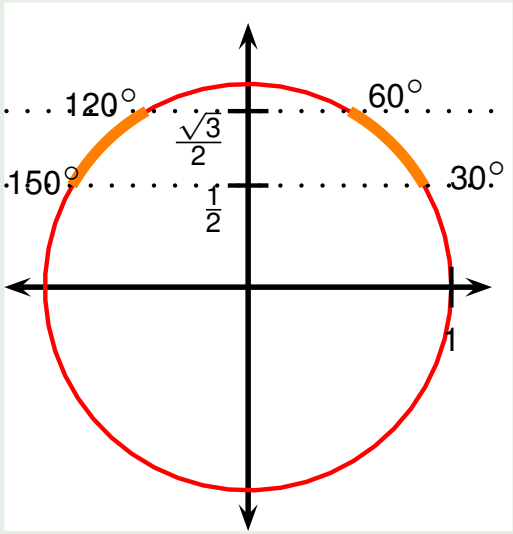

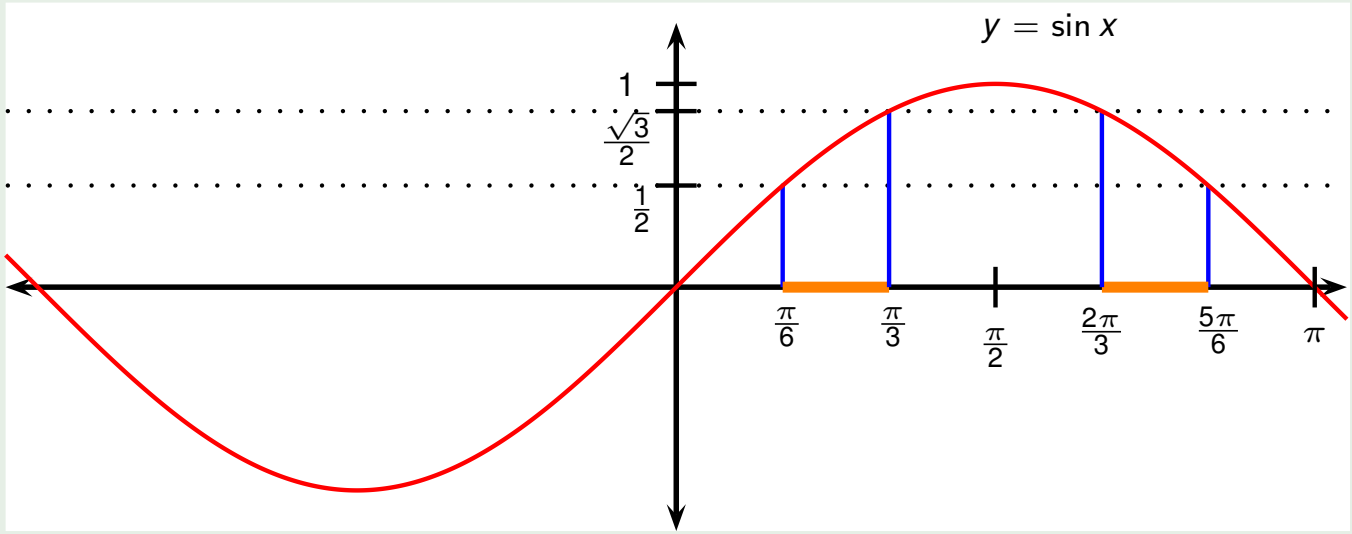

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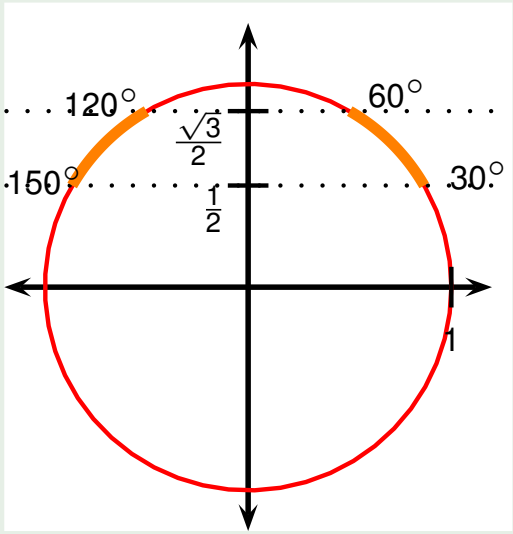

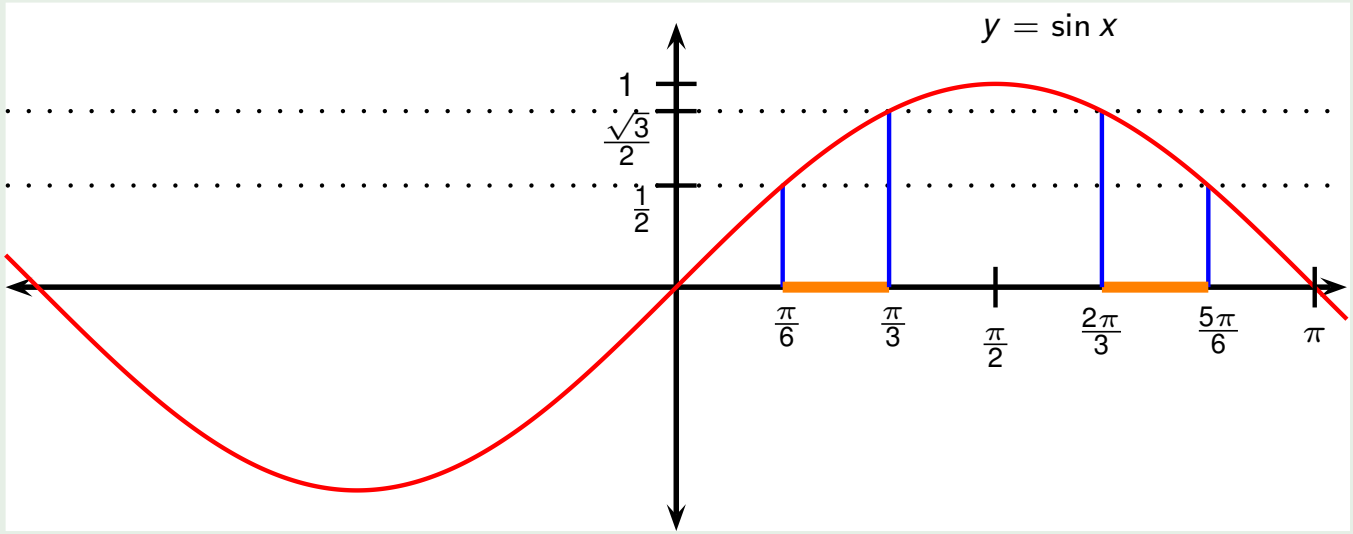

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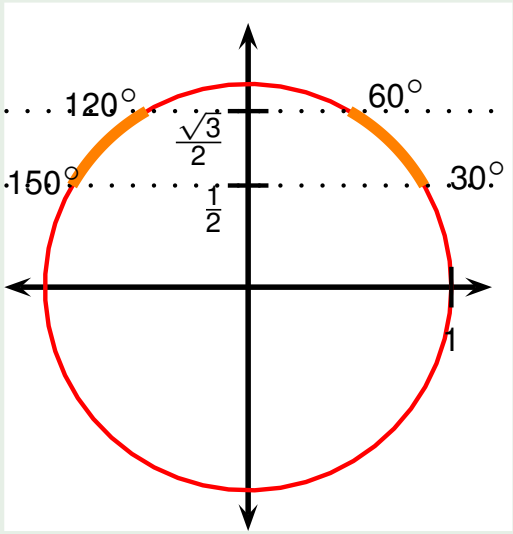
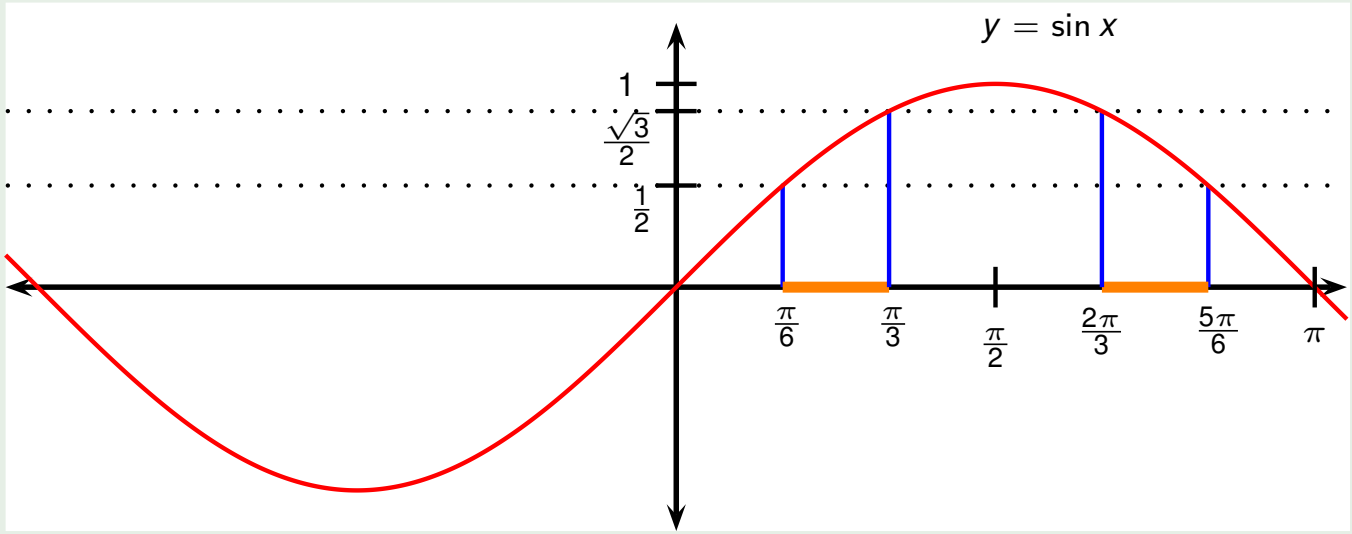
$$x \in \begin{array}{c} [-330°, -300°) \cup (-240°, -210°] \\ \cup\, [30°, 60°) \cup (120°, 150°] \\ \cup [390°, 420°) \cup (480°, 510°] \\ \ldots \end{array} \quad \left| \begin{array}{l} k = -1 \\ k = 0 \\ k = 1 \end{array} \right.$$





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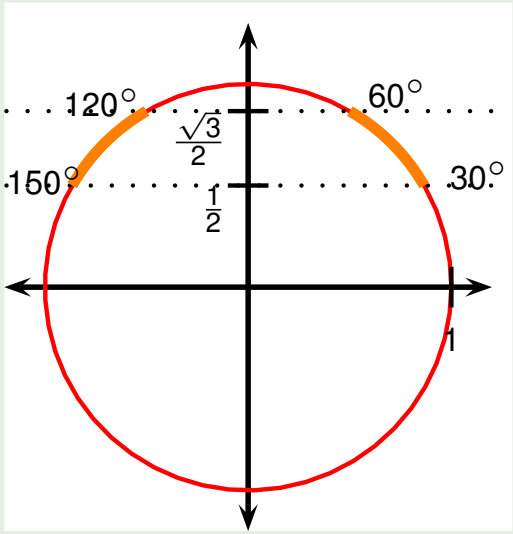

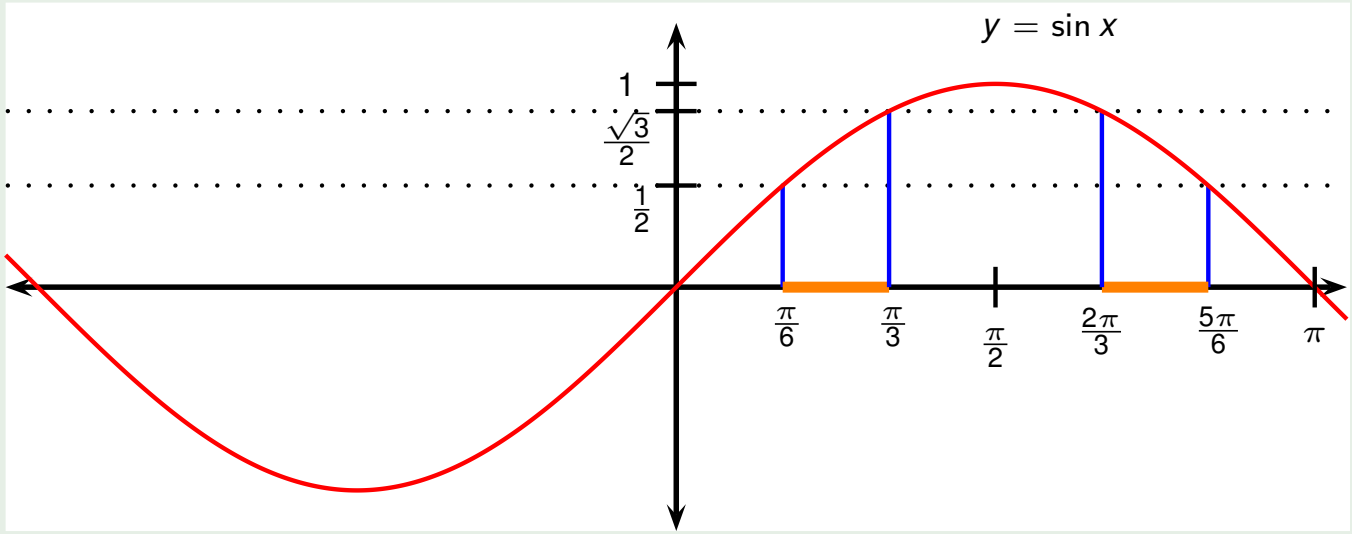

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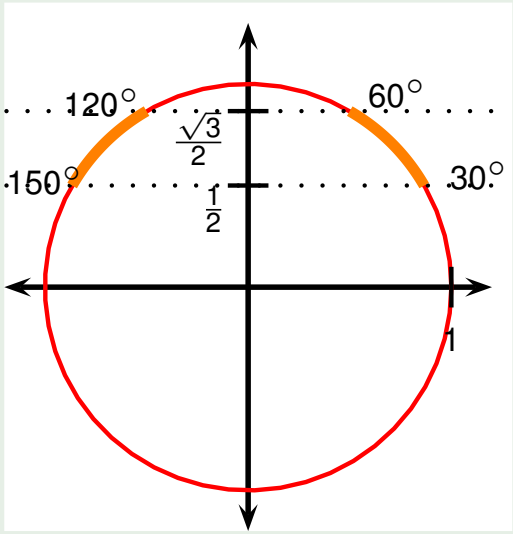

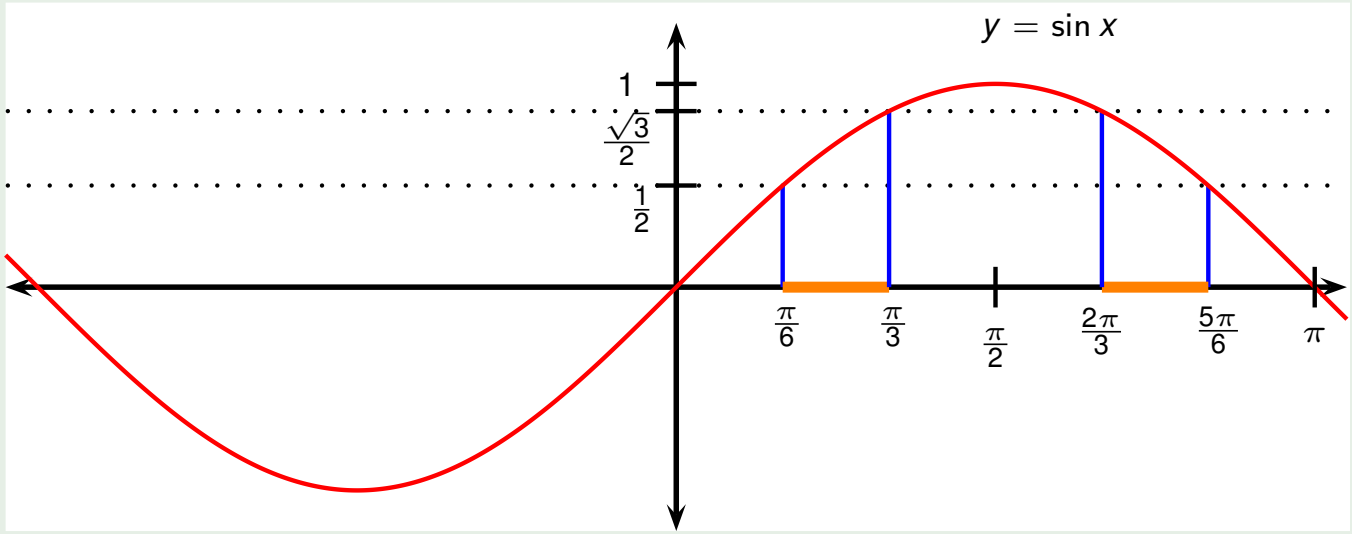

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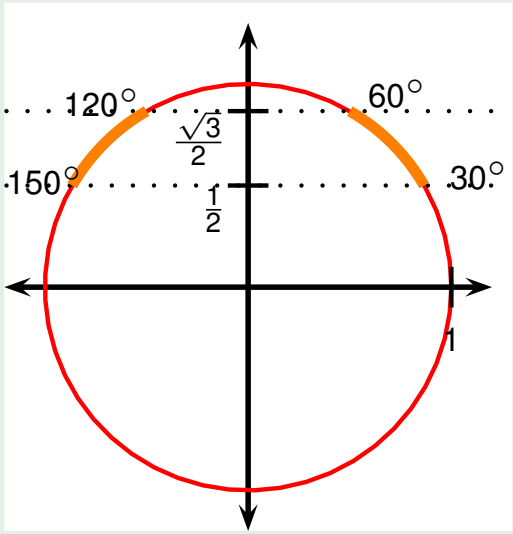

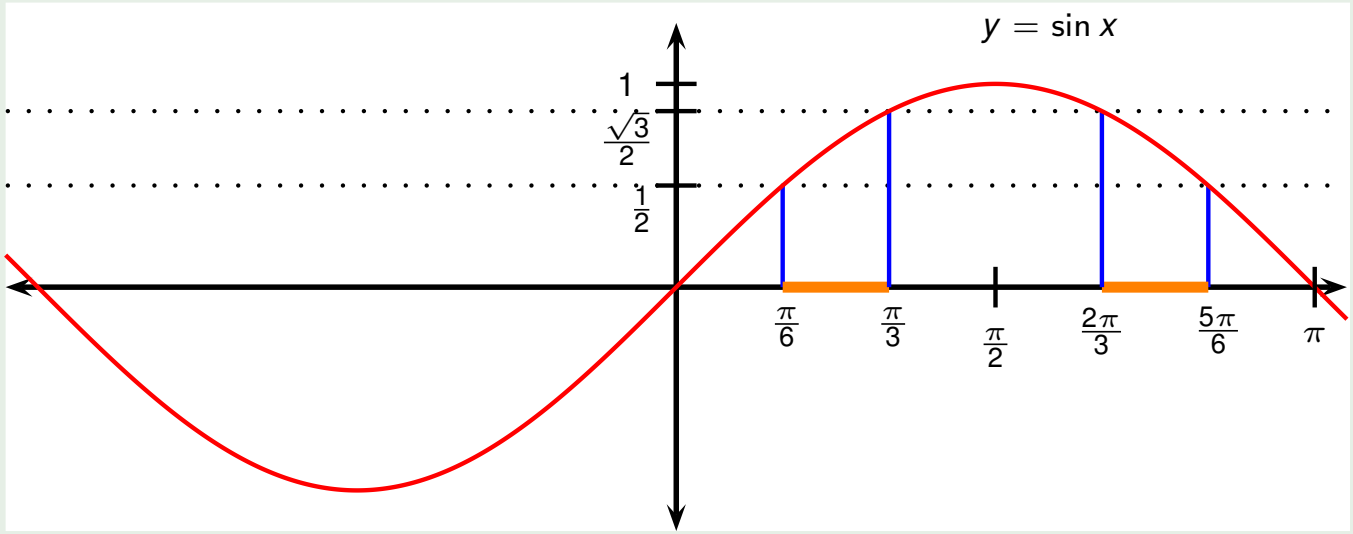

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In radians:

$$x \in \left[-\frac{11\pi}{6}, -\frac{5\pi}{3}\right) \cup \left[-\frac{4\pi}{3}, -\frac{7\pi}{6}\right) \cup \left[\frac{\pi}{6}, \frac{\pi}{3}\right) \cup \left[\frac{2\pi}{3}, \frac{5\pi}{6}\right) \cup \left[\frac{13\pi}{6}, \frac{7\pi}{3}\right)$$