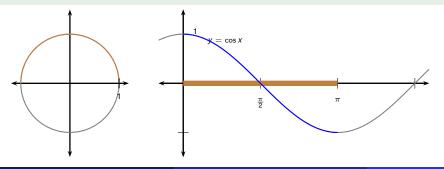
# Calculus II Simplify arccos(cos(x))

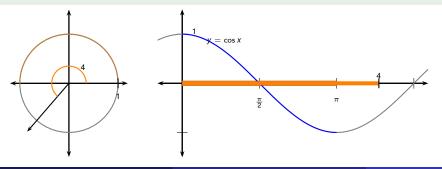
**Todor Milev** 

2019

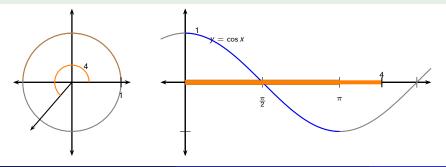


Find arccos(cos 4).

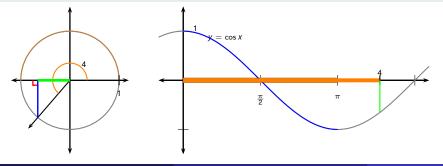
• 4 is not between 0 and  $\pi$ .



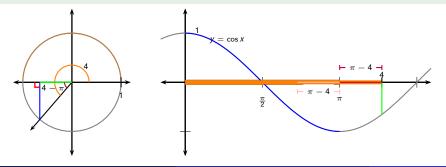
- 4 is not between 0 and  $\pi$ .
- We need the angle a between 0 and  $\pi$  for which  $\cos 4 = \cos a$ .



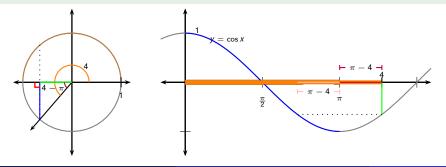
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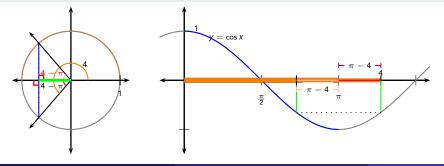
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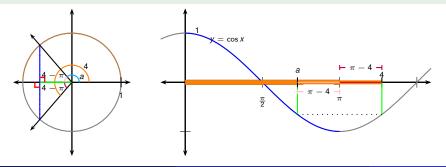
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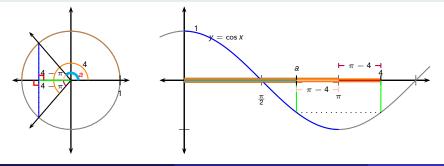


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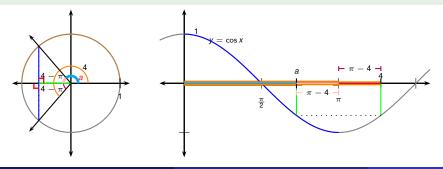
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- We need the angle a between 0 and  $\pi$  for which  $\cos 4 = \cos a$ .

$$a = ?$$



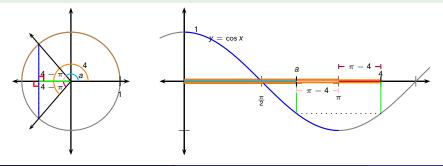
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$$a = \pi - (4 - \pi)$$



- 4 is not between 0 and  $\pi$ .
- We need the angle a between 0 and  $\pi$  for which  $\cos 4 = \cos a$ .

$$a = \pi - (4 - \pi) = 2\pi - 4$$

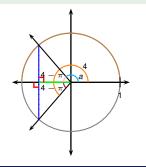


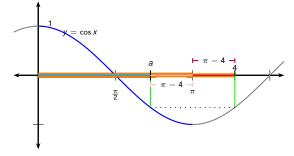
### Find arccos(cos 4).

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Therefore arccos(cos 4) = arccos(cos a)





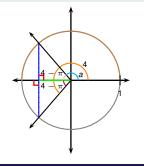
### Find arccos(cos 4).

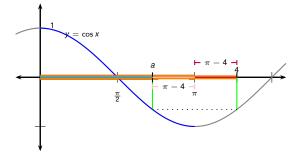
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= a





#### Find arccos(cos 4).

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- We need the angle a between 0 and  $\pi$  for which  $\cos 4 = \cos a$ .

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Therefore arccos(cos 4) = arccos(cos a)

$$= a = 2\pi - 4.$$

