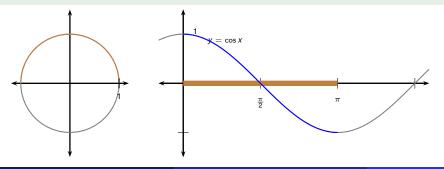
Precalculus Simplify arccos(cos(x))

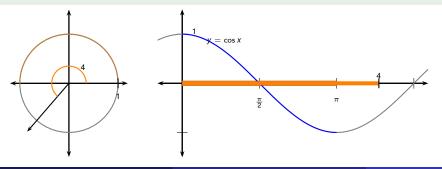
Todor Milev

2019

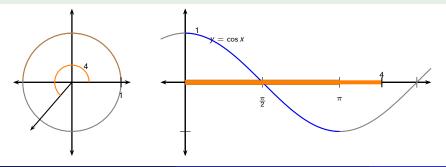


Find arccos(cos 4).

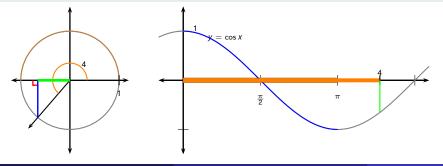
• 4 is not between 0 and π .



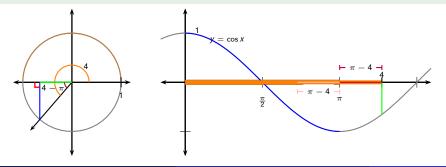
- 4 is not between 0 and π .
- We need the angle a between 0 and π for which $\cos 4 = \cos a$.



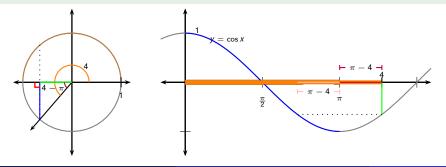
- 4 is not between 0 and π .
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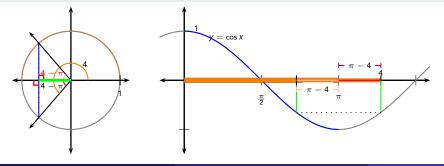
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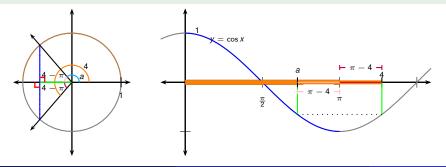
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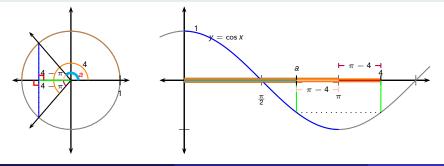


- 4 is not between 0 and π .
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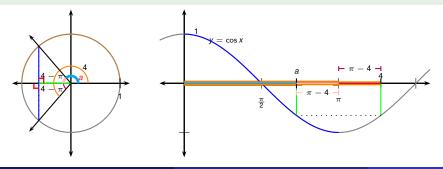
- 4 is not between 0 and π .
- We need the angle a between 0 and π for which $\cos 4 = \cos a$.

$$a = ?$$



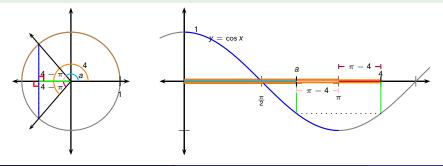
- 4 is not between 0 and π .
- We need the angle a between 0 and π for which $\cos 4 = \cos a$.

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



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

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

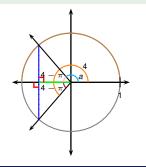


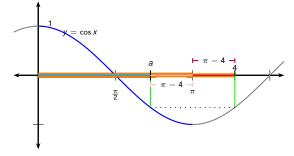
Find arccos(cos 4).

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

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

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





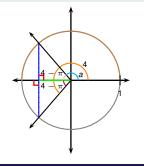
Find arccos(cos 4).

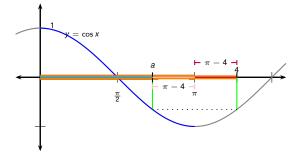
- 4 is not between 0 and π .
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= a





Find arccos(cos 4).

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

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

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

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

