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## Homework 1

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## Homework 1-1

2/2 points (graded)

Choose all the prime numbers.

☑ 2011
<b>2013</b>
<b>2015</b>
<b>2</b> 017
<b>2019</b>
<b>2021</b>
<ul><li>2023</li></ul>
<b>✓</b>
Submit
✓ Correct (2/2 points)

Homework 1-2

Fill an integer into $arphi(1)$	
1	<b>~</b>
arphi(2)	
1	<b>~</b>
arphi(3)	
2	<b>~</b>
arphi(4)	
2	<b>~</b>
arphi(6)	
2	<b>~</b>
arphi(12)	
4	

arphi(1)+arphi(2)+arphi(3)+arphi(4)+arphi	(6) +	$\varphi(12)$
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12

**12** 

Submit

## Homework 1-3

2.0/2.0 points (graded)

In 2004, Green and Tao proved the following amazing result on prime numbers: for any given N, there exist an arithmetic progression of length N consisting of prime numbers only. Tao won a Fields Medal in 2006. For example, N and N is an arithmetic progression of length N consisting of prime numbers only.

Find the maximum length of arithmetic progressions consisting of prime numbers only whose initial term is 5.



Submit

## Homework 1-4

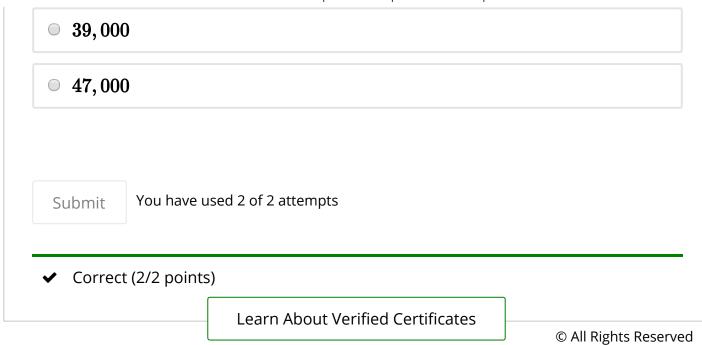
2/2 points (graded)

What is the number of prime numbers less than 1,000,000 with last digit 3 (such as 3,13,23,43,...)?

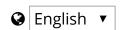
Choose the closest number.

0 10,000

● 19,000







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