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Homework 1

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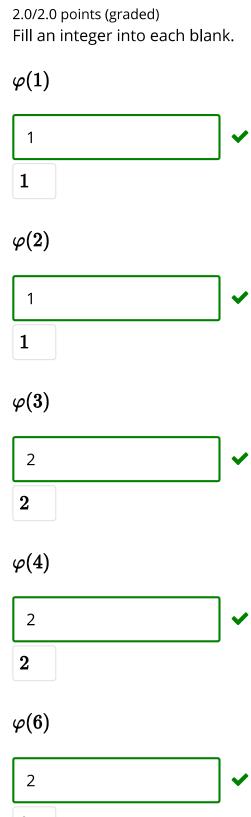
Homework 1-1

2.0/2.0 points (graded)

Choose all the prime numbers.

| 2 011 | |
|--------------|--|
| 2013 | |
| 2015 | |
| € 2017 | |
| 2019 | |
| 2021 | |
| □ 2023 | |
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Homework 1-2





 $\varphi(12)$



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

12

12

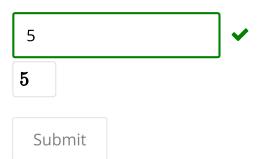
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Homework 1-3

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 $\bf 5$.

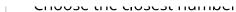


Homework 1-4

2.0/2.0 points (graded)

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

Choose the closest number



- 10,000 19,000 🗸 39,000
 - **47,000**

Submit

You have used 2 of 2 attempts

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