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► Introduction

► Week 1

▼ Week 2

Review of Week 1

Laws of Prime Numbers

Week 2 Problems due
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Homework 2

Homework 2 due Feb
03, 2016 at 23:30 UTC



Completion Checklist 2

Completion Checklist 2
due Feb 03, 2016 at
23:30 UTC



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Week 2 > Laws of Prime Numbers > Problem (5-6)

PROBLEM 5 (3/3 points)

Calculate integers modulo 7 as follows.

For example, since the remainder of $4+5=9$ is 2 when we divide it by 7, we write

$$4 + 5 \equiv 2 \pmod{7}.$$

Similarly, we have

$$(1) \ 5 + 3 \equiv A \pmod{7}$$

$$(2) \ (2 - 6) \times 4 \equiv B \pmod{7}$$

$$(3) \ 4 \times 3 \times 2 \times 1 \equiv C \pmod{7}$$

Write an integer between 0 and 6 in each of the blanks.

A

B

C

✓ Answer: 1

✓ Answer: 5

✓ Answer: 3

You have used 1 of 2 submissions

PROBLEM 6 (1/1 point)

Fermat's theorem on sums of two squares is a special case of more general laws of prime numbers, which are usually called

☐ Sum-Prime Laws.

☐ Primitive Laws.

☒ Reciprocity Laws. ✓

☐ Reciprocal Laws.

☐ Recreational Laws.

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