



Course > Week 2 > Sums o... > Proble...

Problem (3-4)

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Problem 3

1/1 point (graded)

Assume that integers A , B , and C satisfy the following:

$$(4 + 4) - 6 \equiv A \pmod{7} \quad 0 \leq A \leq 6$$

$$3 \times 6 + 4 \times 5 \equiv B \pmod{7} \quad 0 \leq B \leq 6$$

$$2^5 \equiv C \pmod{7} \quad 0 \leq C \leq 6$$

Find A , B , and C .

$A =$

✓ Answer: 2

$B =$

✓ Answer: 3

$C =$

✓ Answer: 4

Submit

You have used 1 of 2 attempts

i Answers are displayed within the problem

Problem 4

1/1 point (graded)

Fill an integer in each blank.

2

✓ Answer: 2

is the multiplicative inverse to 4 (mod 7).

2

3

✓ Answer: 3

is the multiplicative inverse to 3 (mod 8).

3

13

✓ Answer: 13

is the multiplicative inverse to 7 (mod 15).

13

If $1 \leq A, B \leq N - 1$ satisfy $A \times B \equiv 1 \pmod{N}$, we say B is the multiplicative inverse to $A \pmod{N}$. The multiplicative inverse exists if N is a prime number. If N is not a prime number, the multiplicative inverse may or may not exist.

Submit

You have used 1 of 2 attempts

ⓘ Answers are displayed within the problem

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