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Q Course

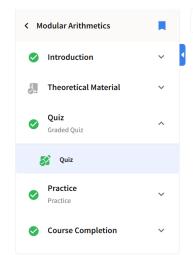
**Progress** 

Course is completed. The course result can no longer be changed.

## **Modular Arithmetics**



Home / Course / Modular Arithmetics / Quiz





Read the question below and enter an answer. Then, click "Submit." What is 70 mod 10?



Correct: Nice job!

Submit You have used 1 of 1 attempt

Read the question below and select the correct answer. Then, click "Submit." Which of the following statements is correct?

- $\bigcirc$  If  $a,b\in Z^+$  and  $m\in Z$ , then  $m\mid a-b \text{ iff } a\equiv b\pmod{m}$ .
- If  $a,b\in Z^+$  and  $m\in Z$  , then  $a{-}b\mid m$  iff  $a\equiv b\pmod m$  .



Correct: Great job!

nit You have used 1 of 1 attempt

Read the question below and select the correct answer. Then, click "Submit." Which of the following statements is correct?

- $(ab) \ mod \ m = (a \ mod \ m) * (b \ mod \ m)$
- $(ab) \,\, mod \, m = ((a \, mod \, m) + (b \, mod \, m)) \,\, mod \, m$
- $(ab) \,\, mod \, m = (a \, mod \, m) + (b \, mod \, m)$



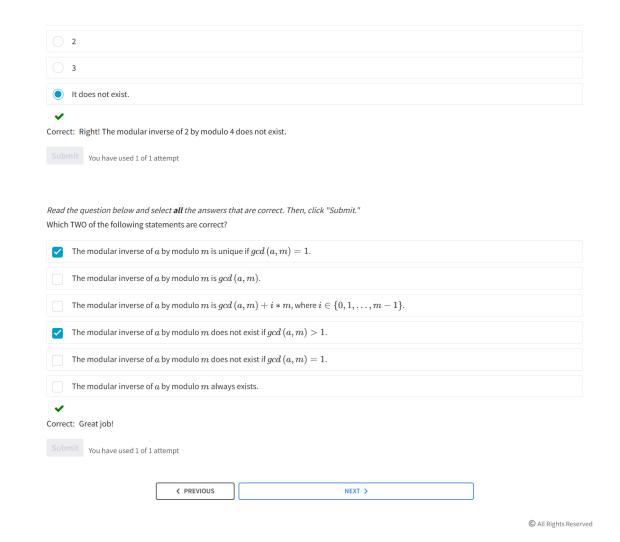
Correct: Nice job!



Submit You have used 1 of 1 attempt

	Find all values of $x$ such that $ax \equiv b \pmod{m}$ .
	Find all values of $x$ from the set $\{0,1,\ldots,m-1\}$ such that $ax=b$ .
	Find all values of $x$ from the set $\{0,1,\ldots,m-1\}$ such that $ax\ mod\ m=b$ .
	Find all values of $x$ from the set $\{0,1,\ldots,m-1\}$ such that $ax\equiv b\ (mod\ m)$ .
<b>→</b>	
Corre	ct: Great job!
	You have used 1 of 1 attempt
Poad	the question below and select <b>all</b> the answers that are correct. Then, click "Submit."
	ose the equation $ax\equiv b\ (mod\ m)$ is solvable. Which TWO of the following statements are correct?
	$d\mid a$ , where $d=gcd$ $(b,m)$ .
	$d\mid b$ , where $d=gcd\ (a,m)$ .
	The equation has $d$ solutions, where $d=\gcd{(a,m)}.$
	The equation has $(d-1)$ solutions, where $d=\gcd{(a,m)}.$
Sub Read	the question below and select the correct answer. Then, click "Submit." of the following statements is correct?
Sub Read	You have used 1 of 1 attempt  the question below and select the correct answer. Then, click "Submit."
Sub Read	the question below and select the correct answer. Then, click "Submit." of the following statements is correct?
Sub Read	the question below and select the correct answer. Then, click "Submit." of the following statements is correct? Let $a \in Z$ and $m \in Z^+$ . The modular inverse of a by modulo m is an integer $x$ such that $ax \equiv 0 \ (mod \ m)$ , where $0 < x < m$ . Let $a \in Z$ and $m \in Z^+$ . The modular inverse of a by modulo m is an integer $x$ such that $a \equiv x \ (mod \ m)$ , where $0 < x < m$ .
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