

Unit 5 - Week 3

Course outline

How does an NPTEL online course work?

Week 0

Week 1

Week 2

Week 3

Lecture 11 : Arithmetic modulo n , theory and examples

Lecture 12 : Arithmetic modulo n , more examples

Lecture 13 : Solving linear polynomials modulo n - I

Lecture 14 : Solving linear polynomials modulo n - II

Lecture 15 : Solving linear polynomials modulo n - III

Quiz : Assignment 3

Assignment-3 Solutions

Assignment-3 Detailed Solutions

Weekly Feedback

Download Videos

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

Live Session

Assignment 3

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-10-07, 23:59 IST.

1) $34 \times 19 \pmod{29}$? 1 point

- 6
 8
 10
 12

No, the answer is incorrect.
Score: 0

Accepted Answers:
8

2) $19 \times 14 \pmod{23}$? 1 point

- 9
 11
 13
 15

No, the answer is incorrect.
Score: 0

Accepted Answers:
13

3) $5^{10} \pmod{19}$? 1 point

- 2
 3
 5
 7

No, the answer is incorrect.
Score: 0

Accepted Answers:
5

4) If $f(x)$ is a polynomial in one variable with integer coefficients then which of the following is always true? 1 point

- there are infinitely many natural numbers n such that $f(n)$ is prime.
 there are infinitely many natural numbers n such that $f(n)$ is composite.
 the number of natural numbers n such that $f(n)$ is prime is bounded.
 the number of natural numbers n such that $f(n)$ is prime is finite.
 None of the above.

No, the answer is incorrect.
Score: 0

Accepted Answers:
None of the above.

5) If $(a, n) = 1$ then, modulo n , the system $ax \equiv b \pmod{n}$ has 1 point

- a unique solution.
 a solution.
 a solution in some cases.
 no solution.

No, the answer is incorrect.
Score: 0

Accepted Answers:
a unique solution.
a solution.

6) The number of solutions to $2x \equiv 6$ in \mathbb{Z}_{12} is 1 point

- 1
 2
 6
 12

No, the answer is incorrect.
Score: 0

Accepted Answers:
2

7) The number of solutions to $3y \equiv 9 \pmod{7}$ in \mathbb{Z}_7 is 1 point

- 1
 3
 7
 9

No, the answer is incorrect.
Score: 0

Accepted Answers:
1

8) If $(a, n) = 1$ and $(a, b) = 1$ then there is always some $k \in \mathbb{N}$ such that a divides $(a, b + kn)$. 1 point

- True
 False
 Sometimes true and sometimes false

No, the answer is incorrect.
Score: 0

Accepted Answers:
True

9) If $(a, k) = 2$ then there are at least two natural numbers n satisfying $an \equiv 4 \pmod{k}$. 1 point

- True
 False
 Sometimes true and sometimes false

No, the answer is incorrect.
Score: 0

Accepted Answers:
True

10) If $(a, k) = 2$ then there are infinitely many natural numbers n satisfying $an \equiv 4 \pmod{k}$. 1 point

- True
 False
 Sometimes true and sometimes false

No, the answer is incorrect.
Score: 0

Accepted Answers:
True