



Bookmarks



Bookmark

▶ Introduction

▶ Week 1

▶ Week 2

▶ Week 3

▼ Week 4

Review of Week 3

ABC Conjecture and Beyond

Week 4 Problems due Feb 17, 2016 at 23:30 UTC

Homework 4

Homework 4 due Feb 17, 2016 at 23:30 UTC

Farewell Message

Ending Survey

Completion

Checklist 4

Completion Checklist 4 due Feb 17, 2016 at 23:30 UTC

▶ Japan Gateway: Kyoto University Top Global Program

Week 4 &gt; Homework 4 &gt; Homework 4

## Homework 4-1

(1/1 point)

What is the polynomial analogue of the conductor of an ABC triple?

☐ The degree of the product of three polynomials☒ The number of distinct complex roots of the product of three polynomials ✓☐ The irreducible factor of largest degree of the product of three polynomials☐ The ratio of the product of two polynomials divided by the third polynomial☐ There is no polynomial analogue of the conductor.

## Homework 4-2

(6/6 points)

Calculate the conductors for the following ABC triples.

1. (A,B,C) = (23, 73, 96)

 ✓

2. (A,B,C) = (1, 127, 128)

 ✓

3. (A,B,C) = (1, 4374, 4375)

210



210

### Homework 4-3

(2/2 points)

Consider the following polynomial ABC triple

$$(f(x), g(x), h(x)) = (x-1, x^3+3x^2+2x+2, x^3+3x^2+3x+1).$$

The conductor polynomial is

$$N(x) = (x-1)(x+A)(x^3+Bx^2+2x+C).$$

Fill an integer in each of the blanks.

A

B

C

1

3

2



1

3

2

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