Problem (5-6)

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Problem 5

1.0/1.0 point (graded)

The Birch and Swinnerton-Dyer Conjecture implies the rank of an elliptic curve E is equal to the order of the L-function $L(E, s)$ at a particular point.

Where is it?

- $s = 0$
- $Re(s) = \frac{1}{2}$
- $s = 1$ ✔
- $s = \frac{\pi^2}{6}$

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Answers are displayed within the problem

Problem 6

1.0/1.0 point (graded)

Choose the correct statement.

- The BSD Conjecture was completely solved some years ago. It was finally proved in 2010.
- Concerning the BSD Conjecture, the inequality claiming the rank is smaller than the order of the L-function is already known. The opposite inequality is unsolved in general.
- The BSD Conjecture is known when the order of the L-function is less than or equal to 1 thanks to combining results on the modularity, the Gross-Zagier formula, and Kolyvagin's Euler systems. ✔
- The BSD Conjecture is known unconditionally when the rank order of the elliptic curve is less than or equal to 1.

Submit You have used 1 of 2 attempts

Answers are displayed within the problem

English