

Mathematics 3010, Summer 2008: Chapter 9 problems

History

1. What sort of numerals were in use in Italy before Hindu-Arabic numerals?
2. Who discovered the formula for the solution of the quartic?
3. How many types of equations up to degree four did Maestro Dardi of Pisa consider?
4. What application may have led to Dardi's consideration of $x^3+60x^2+1200x=4000$?
5. What was Nicolas Chuquet's profession?
6. What were German algebraists called? Why?
7. Name two mathematicians other than Rudolff to use the plus and minus signs.
8. Name two German mathematicians who published tables with "Pascal's" triangle.

Mathematics (and more history)

1. Write x^5+3x^3+2 in Italian abacist notation.
2. (more history) Who was the major translator of Greek works in the 16th century?
3. Find a fraction between $1/5$ and $1/4$.
4. Estimate the square root of 12 by Chuquet's method.
5. Solve the cubic: $x^3+4x^2+16x=60$.
6. Divide 10 into two parts so their product is $13+\sqrt{128}$.
7. Solve $x^3+2x=4$ using Cardano's formula.
8. Eliminate x^2 from x^3+3x^2+3 by a linear change of variables.