

Mathematics 216
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Homework 11
Due February 15, 2012

1. Use the Euclidean algorithm to compute the greatest common divisor d of 3780 and 4342, and find integers m and n so that $d = 3780m + 4342n$.
2. Recall that we defined the Fermat numbers f_n with the formula $f_n = 2^{2^n} + 1$ if $n \geq 0$, and proved that $f_0 f_1 f_2 \cdots f_n + 2 = f_{n+1}$. Use this formula to show that if $m < n$, then f_m and f_n are relatively prime.