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The unbounded denominator property of noncongruence modular forms.

In this talk we only consider integral weight modular forms which are holomorphic on the upper half plane and have algebraic coefficients. It is known that if such a modular form is invariant under a congruence subgroup then its Fourier coefficients have bounded denominators. The converse is an open question and it has many potential applications. A noncongruence subgroup is said to satisfy the unbounded denominator condition if every genuine modular form for the group (with the above properties) has unbounded denominators. We will show that the unbounded denominator property is satisfied by two general classes of noncongruence subgroups. (Received August 29, 2008)