Title: Divisor functions arising from q-series

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We consider some of the properties of divisor functions arising from q-series and theta functions. Using these we obtain several new identities involving divisor functions. On the other hand we prove a conjecture of Z. H. Sun concerning representations by the ternary quadratic form $x^2 + y^2 + 3z^2$, and also get an analogous result for $x^2 + y^2 + 2z^2$.

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