1057-05-203 **Eric L Clark*** (eclark@ms.uky.edu), 715 Patterson Office Tower, Department of Mathematics, University of Kentucky, Lexington, KY 40506-0027, and **Richard Ehrenborg**. *The Frobenius Poset.*

Motivated by the classical Frobenius problem, we introduce the Frobenius poset on the integers, that is, for a sub-semigroup Λ of the non-negative integers, we define the order by $n \leq_\Lambda m$ if $m - n \in \Lambda$. When Λ is generated by two relatively prime integers, we show that the order complex of an interval in the Frobenius poset is either contractible or homotopy equivalent to a sphere. We also show that when Λ is generated by the arithmetic sequence $\{a, a + d, a + 2d, \ldots, a + (a - 1)d\}$ where a and d are relatively prime, the order complex is homotopy equivalent to a wedge of spheres. (Received January 22, 2010)