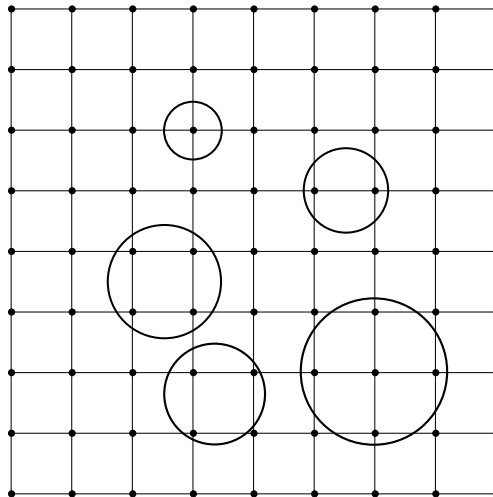


**Ideas in Mathematics**  
**Math 170, Spring 2016**  
**Quiz 4**



The figure above illustrates an array of evenly spaced points on what is called a lattice. Drawn are several circles each containing a different number of lattice points. Is it possible to draw a circle containing exactly  $n$  points for arbitrary  $n \in \mathbb{N}$ ? If yes, describe how you might prove this. If not, give an example of  $n$  for which it is not possible.

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