**Example.**

(1) \{0\}, the trivial subring, and \(R\) are subrings of any ring \(R\).

(2) \{0, 3, 9\} is a subring of \(\mathbb{Z}_{12}\). Although 1 is the identity of \(\mathbb{Z}_{12}\), 9 is the identity of the subring.

(3) For all positive integers \(n\), \(n\mathbb{Z} = \{0, \pm n, \pm 2n, \ldots\\}\) is a subring of \(\mathbb{Z}\).

(4) The Gaussian integers \(\mathbb{Z}[i] = \{a + bi \mid a, b \in \mathbb{Z}\}\) is a subring of \(\mathbb{C}\).

(5) \(\{f : \mathbb{R} \to \mathbb{R} \mid f(a) = 0\}\) for some fixed \(a \in \mathbb{R}\) is a subring of \(F = \{f : \mathbb{R} \to \mathbb{R}\}. \) So is \(\{f : \mathbb{R} \to \mathbb{R} \mid f\) is continuous\}.\)

(6) The set \(\left\{ \begin{bmatrix} a & 0 \\ 0 & b \end{bmatrix} \mid a, b \in \mathbb{Z} \right\}\) of diagonal matrices is a subring of all \(2 \times 2\) matrices over \(\mathbb{Z}\).

We can use a subring lattice diagram to show the relationship between a ring and its various subrings. In this diagram, any ring is a subring of all the rings it is connected to by one or more upward lines.