Knots, graphs and colourablity

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Abstract. A theoretic and diagrammatic relationship between knots and planar graphs has enabled us to visualize, redefine and establish some variational, diagrammatic and illustrative results. It has been shown that the universes, LR-graphs and regions of reduced alternating knots (links) are path connected. Connected universe corresponding to reduced alternating knot (link) is unique. We have redefined the mirror image. It has been established that for reduced alternating knot (linked link), total regions are two more than the total crossings. In case the knot (linked link) is also achiral than total crossings $= 2[total\ black(white)\ regions - 1]$. R^*-move, 2π-twist and π-twist moves enabled us to change connected knot (link) into a reduced form. We have shown that for a un-knot; its bridge number must be one. We have also established that colorability of knot (link) is an ambient isotopy invariant.