

# The Importance of Line Width Measurements in Discriminating Between Pencil Types

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Various graphical and statistical analyses were undertaken to investigate whether in a specimen of pencil writing it was possible to determine if the writing instrument was a mechanical pencil or a wood-cased pencil. A further consideration was whether it was possible to determine the diameter and/or softness of the lead for mechanical pencils. Ten writers provided samples using each pencil type, together with 4 levels of softness. The maximum width for a character was the measurement of interest. It was found that for particular softnesses, it was possible to distinguish diameters of mechanical pencil leads. Distinguishing between mechanical and wood pencils depended on the softness and the diameter of lead. For soft leads, small diameter leads in mechanical pencils were easily distinguished from wood pencils. In the remaining cases differentiation between mechanical and wood-cased pencils was not readily established.