Cross-Contour Drawing: Bowling Ball and Pin Volume

Topic reference / ordinary illustration



Ordinary topic reference. Hypothetical dimensions in the four tasks are supplied in their own text; this illustration is not their measured answer.

Cross-Contour Drawing: Bowling Ball and Pin Volume

Worked example / complete source key

A ball is drawn as a circle 10 cm wide. Using the compression convention, place five guide points along the vertical axis and describe the spacing and curvature of cross-contour arcs from top to bottom.

Answer: Mark the axis. Place five guide points at 1 cm, 3 cm, 5 cm, 7 cm, and 9 cm from the top, so the vertical guide interval is 2 cm (hypothetical spacing). Draw one arc through each point. The top and bottom arcs are more curved; the middle arc is flatter. Under the compression convention, describe edge compression separately from the vertical guide interval: near the left and right silhouette edges the arcs bunch closer together, while toward the center of the visible surface they spread wider. No lines cross; each arc meets the outline smoothly.