Draw a Fruit Bowl: Rim Ellipse and Fruit Arrangement

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.

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Worked example / complete source key

A bowl box is W = 10 cm and H = 6 cm. Choose R = 2.5 cm. Place three fruit circles with diameters 3 cm, 2.5 cm, and 2 cm. Describe the rim ellipse and a valid arrangement.

Answer: Draw the ellipse with major axis 10 cm and minor axis 2.5 cm, centered on the box midline. Mark four axis points and connect with smooth curves. Place the 3 cm fruit near the front with its center 2.5 cm from the left edge and 1 cm below the midline; place the 2.5 cm fruit near the back with its center 5 cm from the left edge and 0.5 cm above the midline; place the 2 cm fruit near the right with its center 8 cm from the left edge and 1 cm below the midline. Check each center against the ellipse with semi-axes a = 5 cm and b = 1.25 cm: the front fruit gives (2.5/5)^2 + (1/1.25)^2 = 0.25 + 0.64 = 0.89; the back fruit gives (0/5)^2 + (0.5/1.25)^2 = 0.16; the right fruit gives (3/5)^2 + (1/1.25)^2 = 0.36 + 0.64 = 1.0, so move it to 7.5 cm from the left edge to get (2.5/5)^2 + (1/1.25)^2 = 0.89. All centers are then strictly inside the ellipse. The front fruit outline crosses the lower rim; the back fruit is partly hidden by the upper rim. Check spacing: half the sum of the first two diameters is 2.75 cm; their center distance is about 3.2 cm, so they do not merge.