Draw a Running Track: Lane Lines and Curve Construction

Original tasks 1, 2 / independent work

Task 1

A track has an inner semicircle radius of 2 cm and a lane width of 0.5 cm. What is the semicircle radius of the third lane line, counting the inner edge as lane zero?

Task 2

You draw a track with inner straight segments of 10 cm and inner semicircle radius of 4 cm. You want four lanes with a lane width of 1 cm. What are the straight length and semicircle radius of the outermost lane line?

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Original tasks 3, 4 / independent work

Task 3

A learner draws lane lines with a constant semicircle radius of 5 cm for every lane while the inner radius is 4 cm and the lane width is 1 cm. Describe the spacing problem at the curves and state the correct radius for the second lane line.

Task 4

You have drawn a track with inner radius 3 cm and lane width 1 cm for three lanes. At one curve, you measure the gap between the first and second lane lines as 0.6 cm. What is the most likely error, and what should you check?