Draw a Scaled Ball: Wrapping Overlapping Rows Around a Sphere

Original tasks 1, 2 / independent work

Task 1

A circle has a vertical axis and one equator guide. The first scale is centered on the axis with its tip down. Describe where to place the next scale to the right so overlap is consistent.

Task 2

A ball is drawn with light from the upper left. A student shades the upper left scales dark and the lower right scales light. What is wrong and how should it be fixed?

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Original tasks 3, 4 / independent work

Task 3

On a circle of radius 5 cm, a student draws five straight horizontal rows of identical scales. Name two problems and one correction for each.

Task 4

A student draws overlapping scales but the overlap direction reverses on the left side. Describe a check and a fix using row-by-row inspection.