Lizard Scale Patterns: Banding and Spotting Drawing Guide

Original tasks 1, 2, 3 / complete keys

Task 1

On a 16 cm lizard drawing, the dorsal zone is 24 mm wide and you choose a hypothetical dorsal scale width of 4 mm. How many full scales fit across one dorsal row, and what remains at the edge?

Answer: Six full scales fit, with no remainder.

Reason: 24 mm divided by 4 mm equals 6 exactly, so six full scales fill the row and no half-scale is needed at the edge.

Check: Multiply 6 by 4 mm to get 24 mm, matching the zone width.

Task 2

A flank zone is 42 mm wide with hypothetical 7 mm scales. You plan bands every four scale rows and want three spot clusters in the gaps. State the number of scales per flank row and whether three spot clusters can fit in two gaps between three bands.

Answer: Six scales per flank row; three spot clusters cannot fit in two gaps if each gap holds at most one cluster, so use four bands to create three gaps or reduce to two clusters.

Reason: 42 mm divided by 7 mm equals 6 scales per row. Three bands create two gaps, so three clusters would force one cluster to cross a band, violating the pattern logic. Four bands create three gaps and allow three clusters.

Check: Count gaps as bands minus one; confirm clusters equal gaps and no cluster crosses a band.

Task 3

A limb is 27 mm wide with hypothetical 3 mm scales. You draw nine scales in the first row and offset the second row by half a scale width. What offset distance do you use, and how many scales fit in the second row if the edge half-scales count as one full scale each?

Answer: Offset 1.5 mm; the second row fits nine scales when the two edge half-scales are counted as one full scale.

Reason: Half of 3 mm is 1.5 mm. Nine scales at 3 mm equal 27 mm, so the row is full; offsetting by 1.5 mm leaves two half-scales at the edges, which together count as one full scale, keeping the count at nine.

Check: Add the offset to the row width check: 1.5 mm plus eight full 3 mm scales plus 1.5 mm equals 27 mm.

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Original tasks 4 / complete keys

Task 4

You have drawn four bands across a torso with five scale rows between each band. A spot cluster is placed on the third scale row after the second band. Does it sit in a gap, and how many full gaps exist between four bands?

Answer: Yes, it sits in a gap; four bands create three full gaps.

Reason: Four bands create three gaps between them. The third row after the second band is inside the gap before the third band, so the cluster does not cross a band. Gaps equal bands minus one, which is three.

Check: Count bands minus one for gaps, and confirm the cluster row number is less than the gap length of five rows.

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Source rubric / reflection

- [ ] Dorsal, flank and limb zones are clearly distinguished with different scale sizes.
- [ ] Every scale follows the baseline-to-midline convention and a fixed width-to-height ratio within its zone.
- [ ] Rows are staggered by half a scale width and scales are rounded polygons, not circles or pointed plates.
- [ ] Bands are transverse, spaced within three to five scale rows, and follow the body contour.
- [ ] Spots are isolated clusters in the gaps between bands and do not cross bands or sit on the dorsal midline.
- [ ] Overlapping scale edges are shaded consistently with a stated light direction.
- [ ] Valid alternatives in scale count, band interval and spot shape are accepted when the convention and pattern logic hold.

Reflection: What did you check, what did you change, and what will you try next?