Dog Collar Grid Drawing: Coordinate-Based Copying

Original tasks 1, 2 / complete keys

Task 1

On a grid with columns A to E and rows 1 to 4, the strap upper edge runs through A1, B1, C2, D2, E3. The lower edge runs through A2, B2, C3, D3, E4. The buckle spans A1 to B2. State the strap width in cells at column D and give the buckle corner coordinates.

Answer: At column D the upper edge is row 2 and the lower edge is row 3, so the width is one cell. The buckle corners are A1, B1, A2, and B2.

Reason: Width is the difference between lower-edge row and upper-edge row at the same column. The buckle corners come directly from the stated span.

Check: Re-read the coordinates, subtract rows at column D, and confirm the buckle span covers exactly two columns and two rows.

Task 2

A collar reference shows four holes on the strap centreline at coordinates B3, C3, D3, and E3. The keeper loop is a narrow rectangle crossing the strap between columns A and B. Describe where to place the hole centres and the keeper loop on a blank grid.

Answer: Place hole centres at B3, C3, D3, and E3, then draw equal small circles around each centre. Draw the keeper loop as a narrow rectangle crossing the strap between columns A and B, centred on the strap's width at that point.

Reason: Hole placement is a direct coordinate copy. The keeper loop is located by its column range and its crossing of the strap.

Check: Count the holes and confirm four centres on row 3. Confirm the keeper loop lies between the A and B column lines and crosses both strap edges.

Dog Collar Grid Drawing: Coordinate-Based Copying

Original tasks 3, 4 / complete keys

Task 3

On a grid with columns A to F and rows 1 to 5, the buckle spans C2 to D3. The strap upper edge runs through A2, B2, C2, D2, E3, F3. The lower edge runs through A3, B3, C3, D3, E4, F4. State the strap width at column B and at column E, and say whether the width changes between those columns.

Answer: At column B the width is one cell (rows 2 and 3). At column E the width is one cell (rows 3 and 4). The width does not change; the strap shifts down by one row but keeps the same cell width.

Reason: Width is the row difference at each column. Both columns show a difference of one row, so the width is constant even though the position changes.

Check: Subtract rows at B and at E. Confirm both differences equal one and that the buckle span C2 to D3 matches the strap edges at those columns.

Task 4

A reference shows a strap with upper edge at A2, B2, C3, D3 and lower edge at A3, B3, C4, D4. The buckle spans B2 to C3. A keeper loop crosses the strap between columns C and D. There are three holes at B4, C4, and D4. Describe a checking pass that would catch a copy where the strap width at column C is two cells instead of one.

Answer: Compare the upper-edge row and lower-edge row at column C. The reference has upper edge row 3 and lower edge row 4, a width of one cell. A copy with width two cells would show a lower edge at row 5 or an upper edge at row 2. Re-count from the nearest labelled row line and correct the misplaced edge.

Reason: The check isolates one column and compares the row difference with the reference value. A width error shows as a row difference of two instead of one.

Check: State the reference width at column C, state the copy's width, and confirm both are measured from the same labelled row lines.

Dog Collar Grid Drawing: Coordinate-Based Copying

Source rubric / reflection

- [ ] Strap upper edge passes within half a cell of the reference coordinates at four or more columns.
- [ ] Strap lower edge passes within half a cell of the reference coordinates at four or more columns.
- [ ] Buckle corners are placed at the correct coordinates within half a cell.
- [ ] Keeper loop crosses the strap at the correct coordinate.
- [ ] Hole centres are evenly spaced by cell count and match the stated number.
- [ ] Line style, hole size, and curve smoothness may vary without penalty if placement is correct.

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