Draw a Winged Cross: Symmetry and Feather Placement

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

On a 12 by 16 unit grid, place a cross with a 2-unit vertical bar and a 2-unit horizontal bar. The vertical bar runs from 2 units below the top margin to 2 units above the bottom margin, and the horizontal bar crosses at the horizontal center line, 6 units down from the top of the vertical bar. Each wing extends 5 units from the cross and rises 4 units. Use 3 inner, 4 middle, and 2 outer feathers per wing. Describe the check for symmetry.

Answer: The vertical bar is centered on the vertical center line and spans from 2 units below the top to 2 units above the bottom, so it is 12 units tall. The horizontal bar is centered on the horizontal center line, which is 8 units from the top margin and 6 units down from the top of the vertical bar. Because the bar is 12 units tall, the crossing point is also 6 units up from the bottom of the bar, so it is the midpoint of the vertical bar. Wing roots are marked at the cross sides. Wing tips are marked 5 units from the center line on both sides and 4 units above the horizontal bar. Feathers are drawn in three layers with equal counts on both wings. Symmetry check: measure the left and right wing tip distances from the center line; they should match within 0.5 cm. Count feathers on each wing; counts should be 3, 4, and 2 in each layer.