Bicycle Rider Drawing: Frame Geometry and Posture

Original task 1 / independent drawing and calculation

Task 1

A hypothetical bicycle has wheelbase 120 units and wheel radius 25 units. Compute the wheel diameter and the gap between wheel edges. Then describe where to place the wheel centers on a baseline.

Keep the original task measurements. Use the full drawing sheet in this PDF for a response needing more room; use the stated paper size when a task specifies larger paper.

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Original task 2 / independent drawing and calculation

Task 2

A rider has saddle height 45 units above the bottom bracket and hip offset 6 units above the saddle. What is the hip height? If the midline is at 50 units, is the hip above or below it?

Keep the original task measurements. Use the full drawing sheet in this PDF for a response needing more room; use the stated paper size when a task specifies larger paper.

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Original task 3 / independent drawing and calculation

Task 3

A side-view drawing shows a torso length of 40 units and an arm length of 35 units. The hand must reach a grip 60 units from the hip. Is the reach plausible without stretching? Explain using a simple range check.

Keep the original task measurements. Use the full drawing sheet in this PDF for a response needing more room; use the stated paper size when a task specifies larger paper.

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Original task 4 / independent drawing and calculation

Task 4

You choose a head angle of 70 degrees from horizontal and a seat angle of 73 degrees from horizontal. Describe how to place the head tube and seat tube on the grid, and state one consistency check.

Keep the original task measurements. Use the full drawing sheet in this PDF for a response needing more room; use the stated paper size when a task specifies larger paper.

Full drawing sheet / reusable blank workspace

Reusable full drawing sheet for Tasks 1 to 4. Print another copy when needed. Keep all original task measurements; if a task specifies larger paper, use that paper size.