How to Practice Drawing Machinery: Gears and Housings Form Study

Original task 1 / independent drawing and calculation

Task 1

Draw a gear with 10 teeth using a hypothetical outer radius of 25 mm and root radius of 20 mm. State the angular step and show one tooth profile repeated around the center.

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

Place two gear centers 60 mm apart on a horizontal line. Draw shaft axes to a housing outline and measure the left and right center-to-edge distances. If the left is 15 mm and the right is 18 mm, what is the difference?

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

Draw a rounded housing around a gear with a hypothetical outer radius of 30 mm. Mark a light direction from the upper right and shade the housing with light, mid, and dark tones. Describe where each tone goes.

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

Draw a gear with 12 teeth and a housing outline. Label the tooth count, angular step, and one hypothetical radius. Then list two checks you would perform before calling the plate complete.

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.