Draw a V8 Engine: Cylinder Layout, Crankshaft and Block Outline

Original tasks 1, 2, 3 / complete keys

Task 1

On a 100 mm by 70 mm rectangle, place two banks of four cylinders with 15 mm spacing along the centerline. Label them 1-8 and state your numbering key.

Answer: A rectangle with a centerline; eight equal circles, four per bank, with centers 15 mm apart along the long axis (three gaps, so the four centers span 45 mm), centered on the rectangle, and each bank offset from the centerline by a bank spacing you choose and record in your key; labels 1-4 and 5-8; a written key.

Reason: The task checks bank count, equal spacing, and a consistent numbering key.

Check: Measure spacing with a ruler and confirm four circles per bank and a written key.

Task 2

Draw a side-view block outline 100 mm wide and 50 mm tall. Place a horizontal crankshaft line 15 mm above the bottom edge and add four alternating throws of 6 mm.

Answer: A 100 mm by 50 mm outline; a horizontal line 15 mm above the bottom; four 6 mm throws arranged in two pairs above and below the line.

Reason: The task checks the crankshaft line position and consistent throw arrangement.

Check: Confirm the line is level within 1 mm and the four throws are arranged in two consistent pairs.

Task 3

Create a valve cover reference strip with two shapes, label them A and B, and keep all letters at the same baseline-to-midline height.

Answer: Two simplified shapes in a strip; labels A and B with a consistent x-height and a stated letter style.

Reason: The task checks the lettering convention and reference strip purpose.

Check: Measure baseline-to-midline height for both labels and confirm they match.

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Original tasks 4 / complete keys

Task 4

Combine your top and side views on one page. Add a short key explaining the cylinder numbering and the crankshaft line.

Answer: A page with top-view banks, side-view block and crankshaft line, and a key explaining numbering and the crankshaft line.

Reason: The task checks integration of layout, labeling, and readability.

Check: Ask a peer to point to the two banks, crankshaft line, block outline, and key without prompting.

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Source rubric / reflection

- [ ] Two banks of four cylinders are clearly shown and labeled.
- [ ] Cylinder spacing is equal and measured.
- [ ] Crankshaft line is horizontal and inside the block outline.
- [ ] Block outline is a single clear shape enclosing the layout.
- [ ] Labels use a consistent baseline-to-midline x-height and a stated letter style.
- [ ] Numbering key is present and consistent.
- [ ] No cutaway shading obscures the layout.

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