Piano Grand-Staff Paper: Braced Treble and Bass Systems

Worked example / complete source key

A learner plans one grand-staff system on paper 210 mm wide and 297 mm high. The left margin is 15 mm, the right margin is 15 mm, and the brace and clefs need 20 mm at the left. Each staff is 10 mm high, and the gap between staves is 10 mm. How much horizontal space remains for notation after the clefs, and how many systems fit vertically if each system needs 30 mm plus a 10 mm gap?

Answer: Horizontal notation space: 210 - 15 - 15 - 20 = 160 mm. Vertical: each system uses 30 mm plus a 10 mm gap, so 40 mm per system. With 297 mm height and 20 mm total top and bottom margins, usable height is 277 mm. 277 divided by 40 is 6 full systems with 37 mm left over. So 6 systems fit.

Reason: Subtract margins and clef space from the width to find notation space. For height, subtract top and bottom margins, then divide by the per-system height including its gap. The remainder is not enough for another full system.

Check: For vertical, multiply 6 by 40 to get 240 mm; subtract from usable height 277 mm to get 37 mm left over (277 - 240 = 37). Adding the 20 mm margins gives 260 mm used on the 297 mm page, also leaving 37 mm.