Hand Lettering on Dot Grid Paper: Baselines and Spacing Guides

Rubric key

Rubric criteria from source.

Baseline placement: every letter without a descender rests on the baseline row.

X-height consistency: lowercase letters reach the marked x-height row within one dot interval.

Letter spacing: gaps repeat within one dot interval of the planned value.

Word spacing: word gaps are at least twice the letter gap and marked before lettering.

Arithmetic check: planned and measured widths use the same unit and are recorded.

Valid alternatives: different letter styles and widths are accepted if placement and spacing are consistent and checkable.

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Complete worked example / separate answer key

On dot-grid paper with dots 5 mm apart, plan the word 'mint' using a two-interval x-height, one-interval letter gaps, and letter widths of three, one, two, and one intervals. Calculate the planned width of the letter gaps and state where the first letter sits.

Answer: The x-height is 10 mm because two intervals of 5 mm equal 10 mm. There are three letter gaps, each 5 mm, so the gap space is 15 mm. The letter widths total seven intervals, or 35 mm. The planned word width is 35 mm plus 15 mm, which is 50 mm. The first letter m sits with its bottom on the baseline row and its top at the x-height row, starting at a marked dot on the baseline.

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Original tasks 1, 2, 3 / complete keys

Task 1

Dots are 4 mm apart. You plan a three-letter word with two letter gaps of one interval each and letter widths of two, one, and two intervals. Calculate the total planned width in millimetres.

Answer: The letter widths total five intervals, or 20 mm. The two gaps total two intervals, or 8 mm. The planned width is 28 mm.

Reason: Multiply intervals by the 4 mm dot spacing, then add letter width and gap width in the same unit.

Check: Measure the lettered word with a ruler; the measured width should be close to 28 mm, allowing for pen thickness.

Task 2

A learner letters a word and measures a letter gap of 9 mm when the planned gap was 6 mm. The word has three letter gaps. By how much did the total gap space exceed the plan?

Answer: Each gap exceeded the plan by 3 mm. Three gaps exceeded the plan by 9 mm in total.

Reason: Subtract the planned gap from the measured gap, then multiply by the number of gaps.

Check: Re-measure all three gaps and add the differences; the sum should be 9 mm.

Task 3

Dots are 6 mm apart. You want an x-height of 18 mm and one dot interval below the baseline for descenders. State the x-height in dot intervals and the depth of the descender space in millimetres.

Answer: The x-height is three intervals because 18 mm divided by 6 mm equals 3. The descender space is one interval, or 6 mm.

Reason: Divide the desired x-height by the dot spacing to count intervals; multiply the descender intervals by the dot spacing.

Check: Count the dot rows from baseline to x-height row and confirm there are three; measure the space below the baseline and confirm 6 mm.

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Original tasks 4 / complete keys

Task 4

A phrase has two words. The first word has four letters and three letter gaps of 5 mm. The word gap is planned as three intervals. Dots are 5 mm apart. Calculate the total gap space between the two words, including the word gap, in millimetres.

Answer: The three letter gaps total 15 mm. The word gap is three intervals, or 15 mm. The total gap space is 30 mm.

Reason: Add the letter gap total to the word gap, keeping all values in millimetres.

Check: Measure the three letter gaps and the word gap with a ruler and add them; the sum should be close to 30 mm.

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Worked example, Task 1, Task 2, Task 3, Task 4 / Separate answer sheet: interval counts, arithmetic checks, alternative widths

Worked example and exercise answers reproduced from source; alternative letter widths accepted if consistent and checkable.

Worked example ('mint', 5 mm dots): x-height 10 mm (two intervals); three letter gaps of 5 mm = 15 mm; letter widths total seven intervals = 35 mm; planned word width 50 mm; first letter m sits with bottom on baseline row and top at x-height row, starting at a marked baseline dot.

Exercise 1 (4 mm dots): letter widths five intervals = 20 mm; two gaps = 8 mm; planned width 28 mm. Check: measure lettered word; should be close to 28 mm allowing for pen thickness.

Exercise 2: each gap exceeded plan by 3 mm; three gaps exceeded by 9 mm total. Check: re-measure all three gaps and add differences; sum should be 9 mm.

Exercise 3 (6 mm dots): x-height 18 mm = three intervals; descender space one interval = 6 mm. Check: count dot rows baseline to x-height (three); measure below baseline (6 mm).

Exercise 4 (5 mm dots): three letter gaps = 15 mm; word gap three intervals = 15 mm; total gap space = 30 mm. Check: measure three letter gaps plus word gap; sum close to 30 mm.

Alternative letter widths: accepted if widths repeat consistently and are checked against planned dot intervals (FAQ 1; rubric 6).

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Source rubric / reflection

- [ ] Baseline placement: every letter without a descender rests on the baseline row.
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- [ ] Letter spacing: gaps repeat within one dot interval of the planned value.
- [ ] Word spacing: word gaps are at least twice the letter gap and marked before lettering.
- [ ] Arithmetic check: planned and measured widths use the same unit and are recorded.
- [ ] Valid alternatives: different letter styles and widths are accepted if placement and spacing are consistent and checkable.

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