Pastel Sunset Sky: Gradient and Horizon Blending

Original tasks 1, 2 / complete keys

Task 1

On a 16 cm tall sheet, a horizon is marked 8 cm from the top. Three sky bands above the horizon are planned at 2 cm, 3 cm, and 3 cm, with 0.5 cm overlaps between adjacent bands. What unique sky height do the bands cover?

Answer: The bands total 2 + 3 + 3 = 8 cm. Two overlaps of 0.5 cm each count 1 cm twice, so unique coverage is 8 - 1 = 7 cm. The sky area is 8 cm tall, so 1 cm at the top is not covered by the planned bands.

Reason: Add the band heights, subtract the double-counted overlap, and compare with the sky height above the horizon.

Check: Re-add the bands and overlaps on paper: 2 + 3 + 3 - 0.5 - 0.5 = 7. Confirm that 7 cm is less than the 8 cm sky height.

Task 2

A student blends a horizon on a 12 cm wide sheet. They blend 3 cm from the left, then 4 cm from the right, with a 1 cm overlap in the middle. How much of the horizon width is blended, and how much is left unblended?

Answer: The blended lengths total 3 + 4 = 7 cm. The 1 cm overlap is counted twice, so unique blended width is 7 - 1 = 6 cm. The sheet is 12 cm wide, so 12 - 6 = 6 cm remains unblended.

Reason: Combine the two blended lengths, subtract the overlap once, then subtract from the total width.

Check: Draw a 12 cm line and mark 3 cm from the left and 4 cm from the right. The overlap is 1 cm; count the unique covered length and the remainder.

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Original tasks 3, 4 / complete keys

Task 3

A pastel sky uses three bands with heights 4 cm, 2 cm, and 5 cm. The overlaps are 1 cm and 0.5 cm. The sky area above the horizon is 10 cm tall. Does the planned banding cover the full sky height without exceeding it? Show the arithmetic.

Answer: Band total is 4 + 2 + 5 = 11 cm. Overlaps total 1 + 0.5 = 1.5 cm, counted twice, so unique coverage is 11 - 1.5 = 9.5 cm. The sky is 10 cm tall, so the bands cover 9.5 cm and leave 0.5 cm uncovered; they do not exceed the sky height.

Reason: Subtract the sum of overlaps from the sum of band heights, then compare with the sky height.

Check: Compute 11 - 1.5 = 9.5 and compare with 10. The result is less than 10, so no excess; the difference is 0.5 cm.

Task 4

A student wants a horizon blend that is soft but readable. They plan to blend 2 cm above the horizon and 2 cm below it, with a 0.5 cm overlap across the line. The paper is 14 cm tall with the horizon at 7 cm from the top. What vertical distance is affected by blending, and how much of the paper above the horizon remains unblended?

Answer: The blended distances total 2 + 2 = 4 cm. The 0.5 cm overlap is counted twice, so the unique blended height is 4 - 0.5 = 3.5 cm. This 3.5 cm is the vertical distance affected by blending. Above the horizon, 2 cm is blended, so the remaining sky above that blended zone is 7 - 2 = 5 cm unblended.

Reason: Find the unique blended height, then subtract the above-horizon blend from the sky height.

Check: Mark the horizon at 7 cm on a 14 cm sheet. Mark 2 cm above and 2 cm below, note the 0.5 cm overlap, and measure the remaining distances with a ruler.

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Source rubric / reflection

- [ ] The sky shows a clear warm-to-cool progression from near the horizon to the top.
- [ ] No hard band edges remain; transitions are gradual and intentional.
- [ ] The horizon edge is soft but still readable as a transition between sky and ground.
- [ ] Colors are applied with light, even layers and no bare paper gaps in the sky.
- [ ] The blending tool was kept clean enough that colors are not muddy.
- [ ] Valid alternatives are accepted: different warm-to-cool color sequences, unequal band heights, and varied blending tools, as long as the gradient and soft horizon are achieved.

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