Draw Contour Lines of a Quadratic Surface Model

Original task 1 / independent drawing and calculation

Task 1

For f(x, y) = x^2 + 2y^2 on the grid x, y from -2 to 2 with step 0.5, draw the contour for level 1. List the exact and estimated points you would mark, and describe the shape.

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.

Draw Contour Lines of a Quadratic Surface Model

Original task 2 / independent drawing and calculation

Task 2

For f(x, y) = x^2 + 2y^2 on the grid x, y from -2 to 2 with step 0.5, draw the contour for level 2. List the exact and estimated points you would mark, and describe the shape.

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.

Draw Contour Lines of a Quadratic Surface Model

Original task 3 / independent drawing and calculation

Task 3

For f(x, y) = x^2 + 2y^2 on the grid x, y from -2 to 2 with step 0.5, draw the contour for level 8. Describe which parts of the contour are visible on the grid and list the exact and estimated points you would mark.

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.

Draw Contour Lines of a Quadratic Surface Model

Original task 4 / independent drawing and calculation

Task 4

For f(x, y) = x^2 + 2y^2 on the grid x, y from -2 to 2 with step 0.5, explain why the level 0 contour is a single point and describe how you would mark it. Then state one check that confirms your marking is correct.

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.

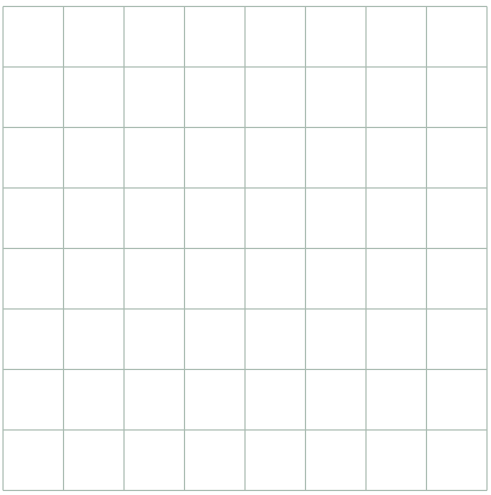
Full drawing sheet / reusable blank workspace

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.

Draw Contour Lines of a Quadratic Surface Model

Blank 0.5-step coordinate grid for contour drawing

Actual source-bound component. Original question values and separate answer keys remain unchanged.

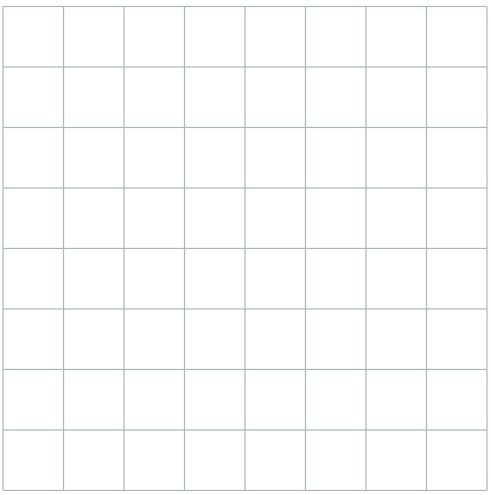


8 columns × 8 rows; 8 mm square cells; actual size at 100% printing.

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Blank 0.5-step coordinate grid for contour drawing

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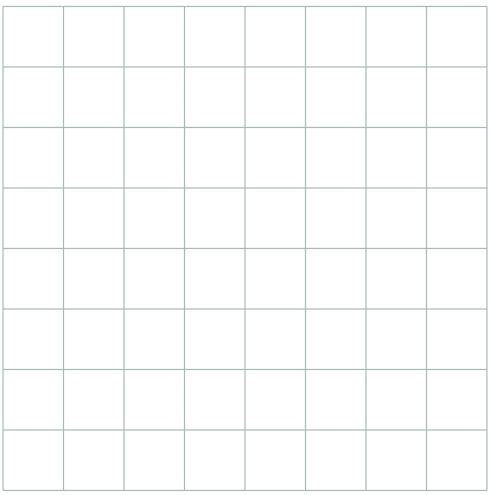


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Blank 0.5-step coordinate grid for contour drawing

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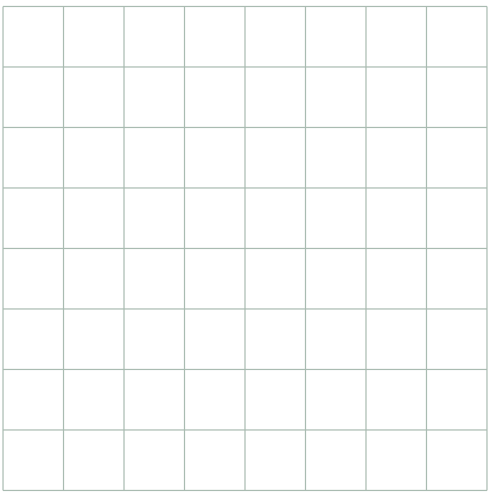


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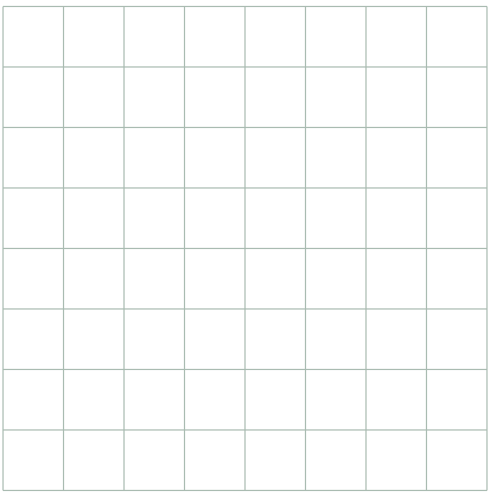


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