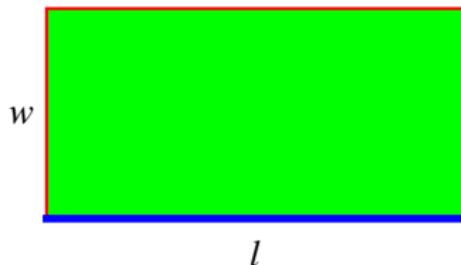


Constrained optimization

Problem: Design a fence to enclose a rectangular region of area 1200 m^2 . Material for one edge (facing the street) costs \$50 per meter while material for the other three edges costs \$30 per meter.

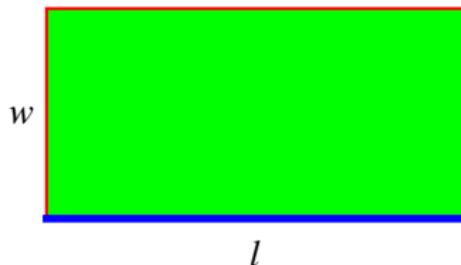
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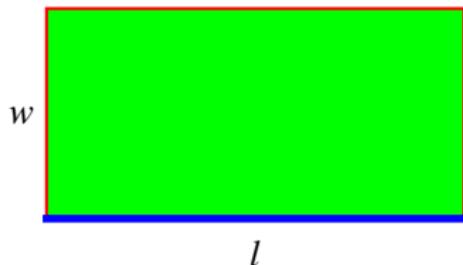
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Constraint: Need $\ell w = 1200$.

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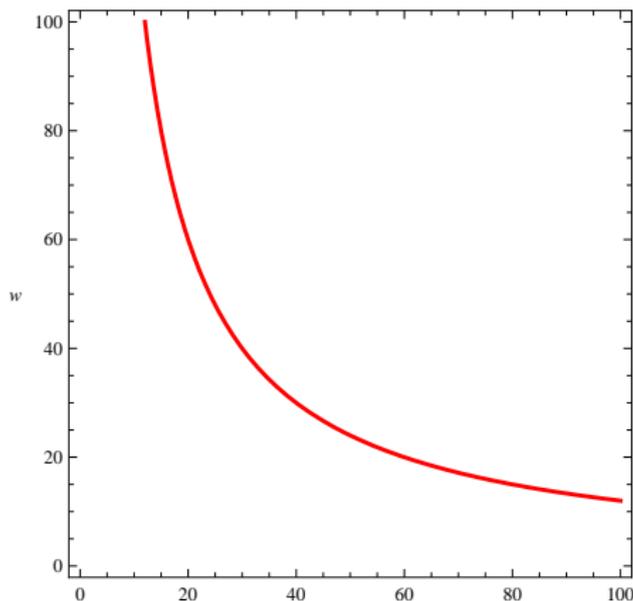
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So build fence with expensive edge of length 30 meters and other dimension of 40 meters.

Idea for Method 2



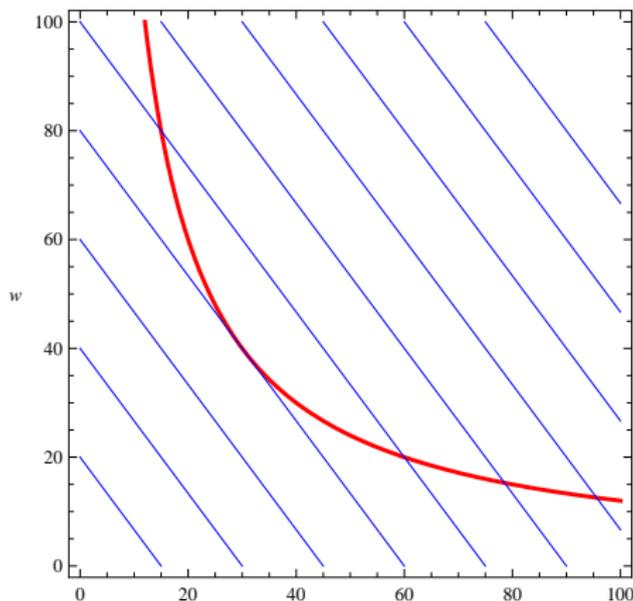
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Level curves for objective $C = 80l + 60w$

Gradient vectors for constraint $A = lw$

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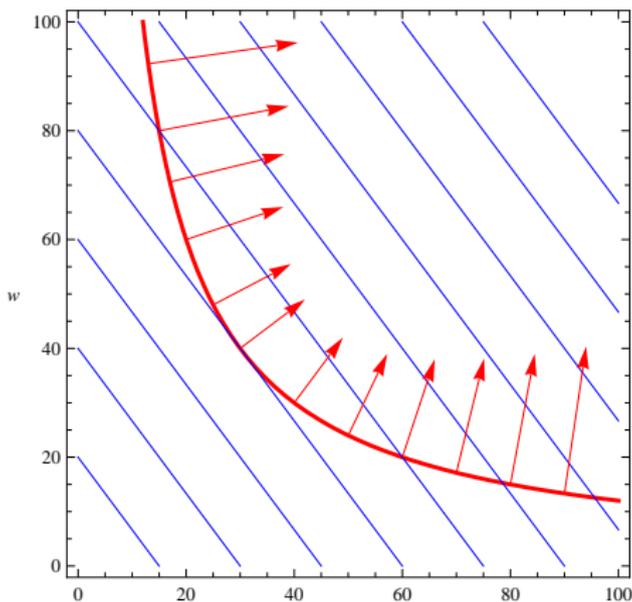
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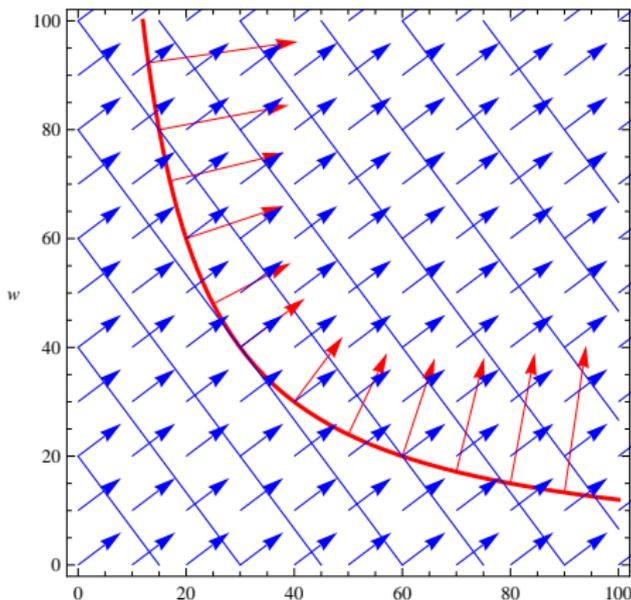
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