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### 3. Level curves and gradients

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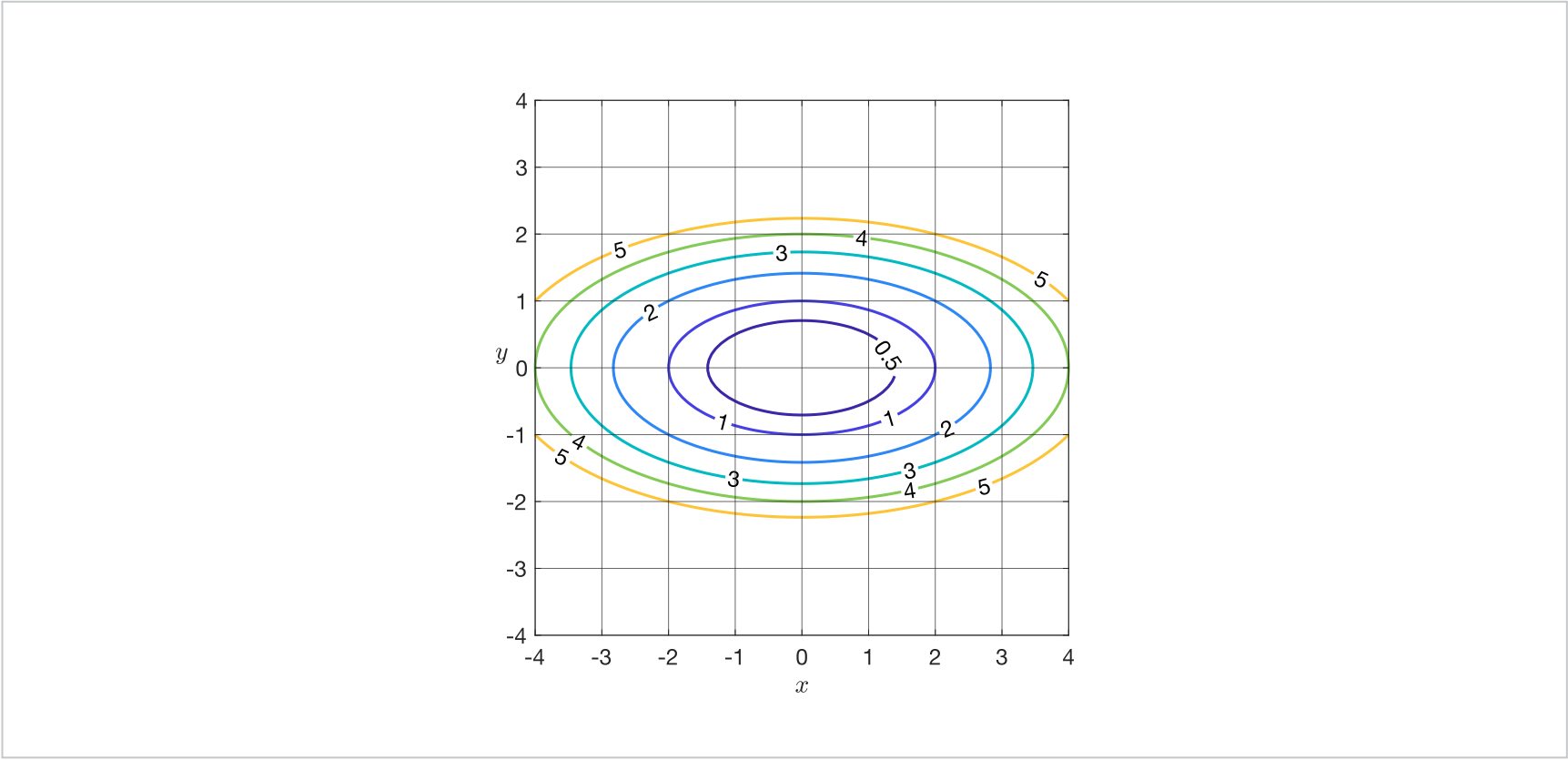
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Synthesize

7.

1/1 point (graded)  
Here is a picture of the level curves of  $f(x,y) = (1/4)x^2 + y^2$ .



Notice that  $(2,0)$  and  $(0,-1)$  are both on the level curve of height 1.

Based on the picture, which is bigger?

☐  $|\nabla f(2,0)|$

☒  $|\nabla f(0,-1)|$



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You have used 1 of 1 attempt

**i** Answers are displayed within the problem

8.

2/2 points (graded)  
Compute  $|\nabla f(2,0)|$  and  $|\nabla f(0,-1)|$ .

$|\nabla f(2,0)| =$

✓ Answer: 1

$|\nabla f(0,-1)| =$

✓ Answer: 2

Try to estimate the values of  $|\nabla f(2,0)|$  and  $|\nabla f(0,-1)|$  and check your estimates against the exact values found above. (If your estimates were off, can you determine where you made a mistake?) [Calculator](#) [Hide Notes](#)

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### 3. Level curves and gradients

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