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2. Review Level Curves

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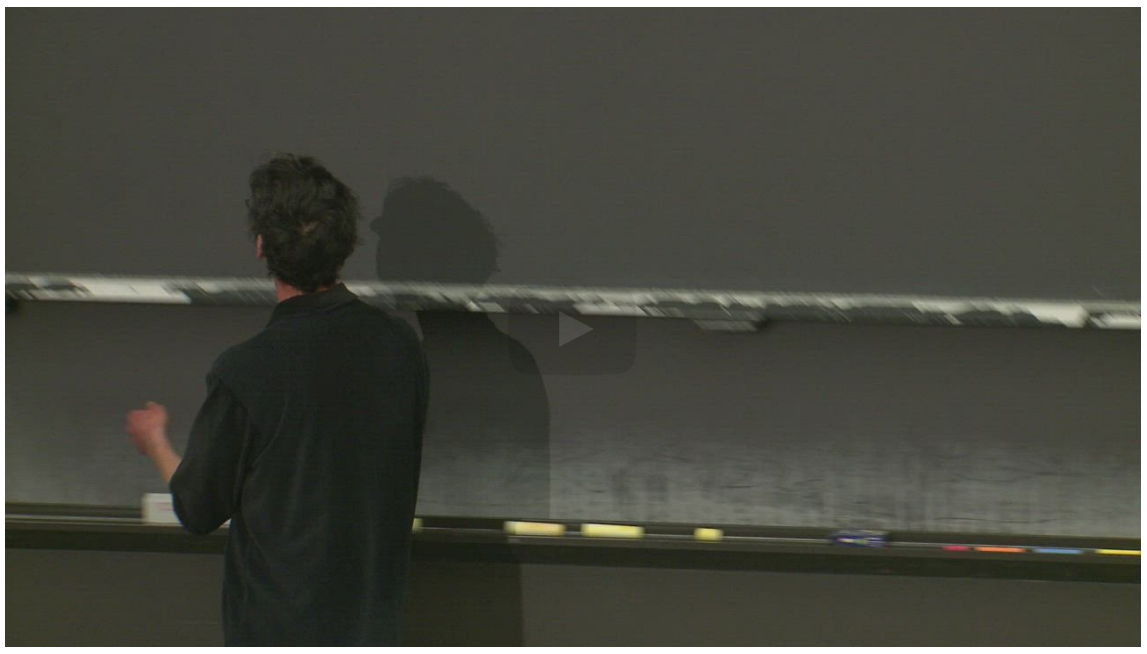
Lecture due Aug 4, 2021 20:30 IST Completed

Review

Warm up problem



Start of transcript. Skip to the end.

PROFESSOR: OK.

So here is our warm up.

We're going to look at this function.

And we're going to draw the level curves.

So we're going to draw level curves at height 0, 1, 2.

Often, in this class, I'll have you all do

0:00 / 0:00 2.0x

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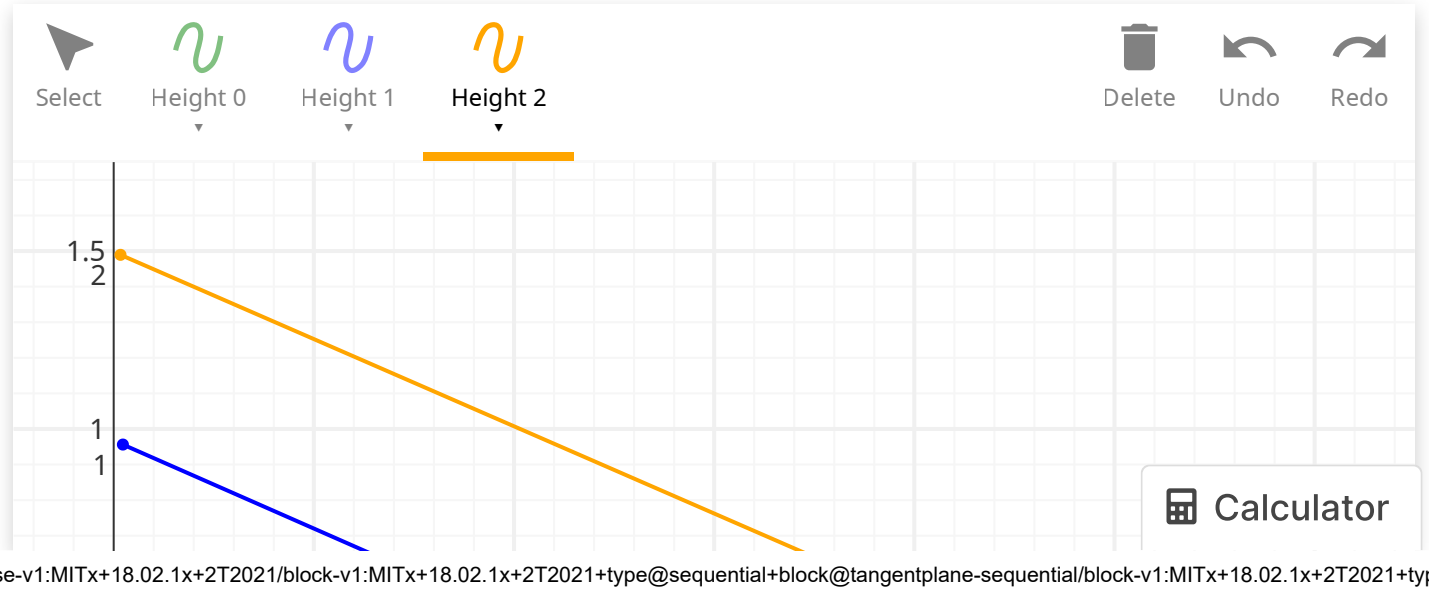
Warmup continued, your turn

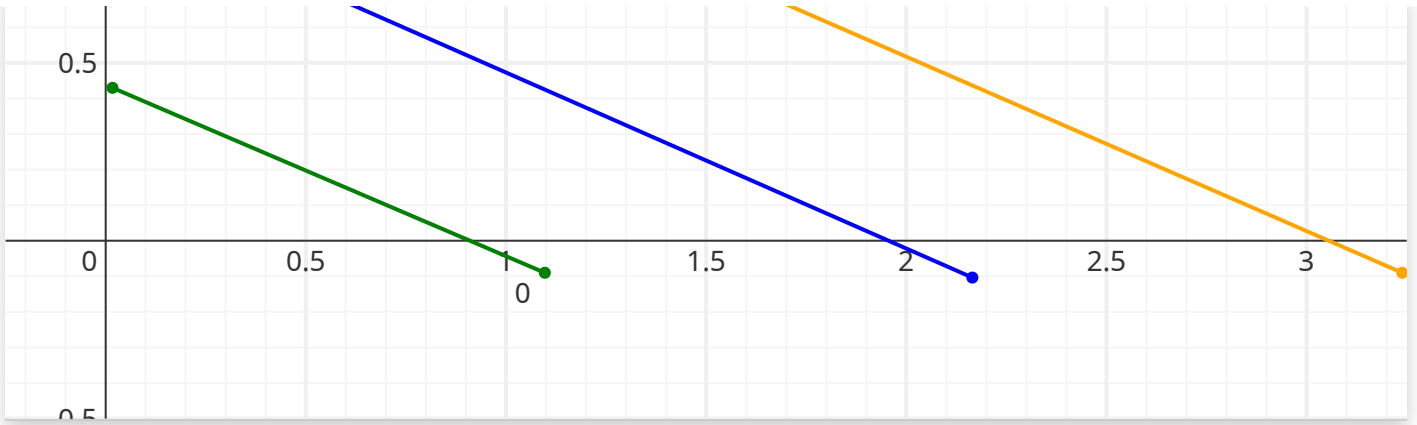
1.0/1 point (graded)
Sketch level curves of height 0, 1, and 2 for the function

$$f(x,y) = x + 2y - 1.$$

Use the appropriate tool to draw each level curve– use the height 0 tool to draw the level curve of height 0, the height 1 tool to draw the level curve of height 1, etc. (Note that the level 0 curve was drawn in the previous video. We ask you to draw it again here for practice, and to gain familiarity with using this drawing tool.)

Note that when drawing the function, you may choose between using the freeform or spline drawing tool using the dropdown menu in the menu of the sketch response tool. The freeform tool draws like a regular pencil using your mouse. The spline tool allows you to pick a series of discrete points, and it then connects them (once you have two or more points) with a curve.





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Answer: See solution.

✔

Good Job

Solution:

- Height 0:

$$x + 2y - 1 = 0$$

If $x = 0$, then $y = 1/2$, which is the point $(0, 1/2)$ If $y = 0$, then $x = 1$, which is the point $(1, 0)$

- Height 1:

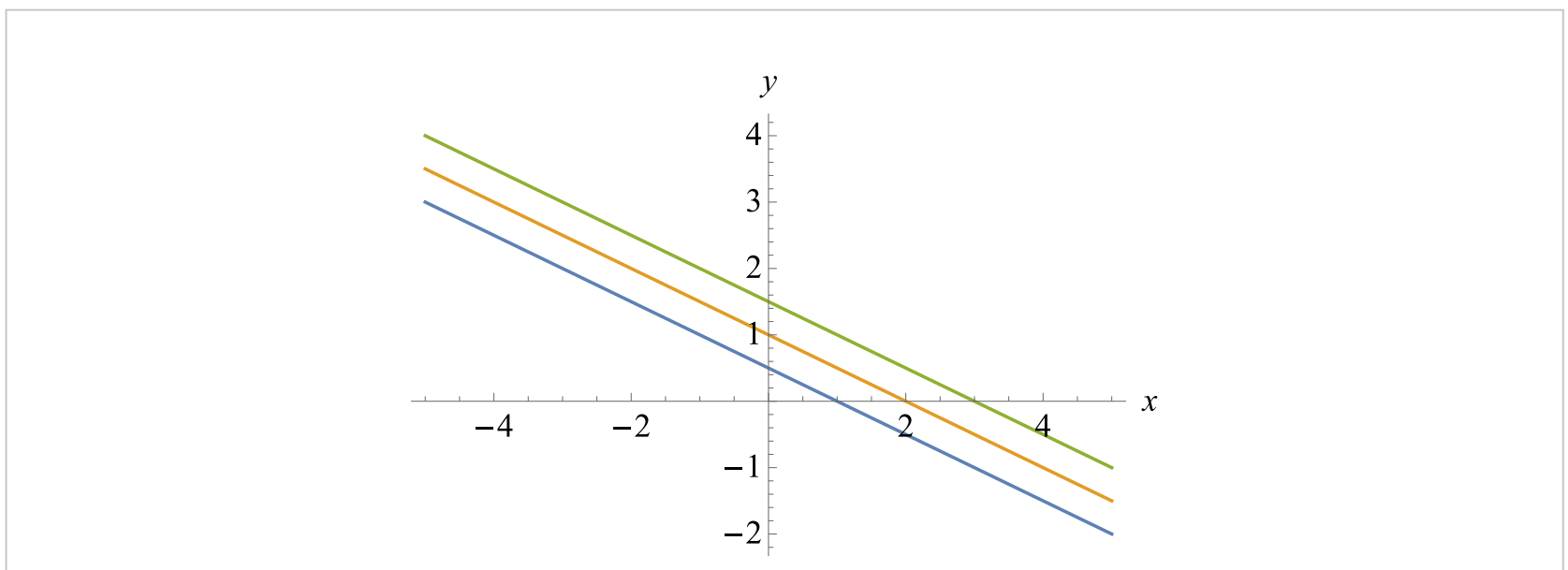
$$x + 2y - 1 = 1$$

If $x = 0$, then $y = 1$, which is the point $(0, 1)$ If $y = 0$, then $x = 2$, which is the point $(2, 0)$

- Height 2:

$$x + 2y - 1 = 2$$

If $x = 0$, then $y = 3/2$, which is the point $(0, 3/2)$ If $y = 0$, then $x = 3$, which is the point $(3, 0)$



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Answers are displayed within the problem

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