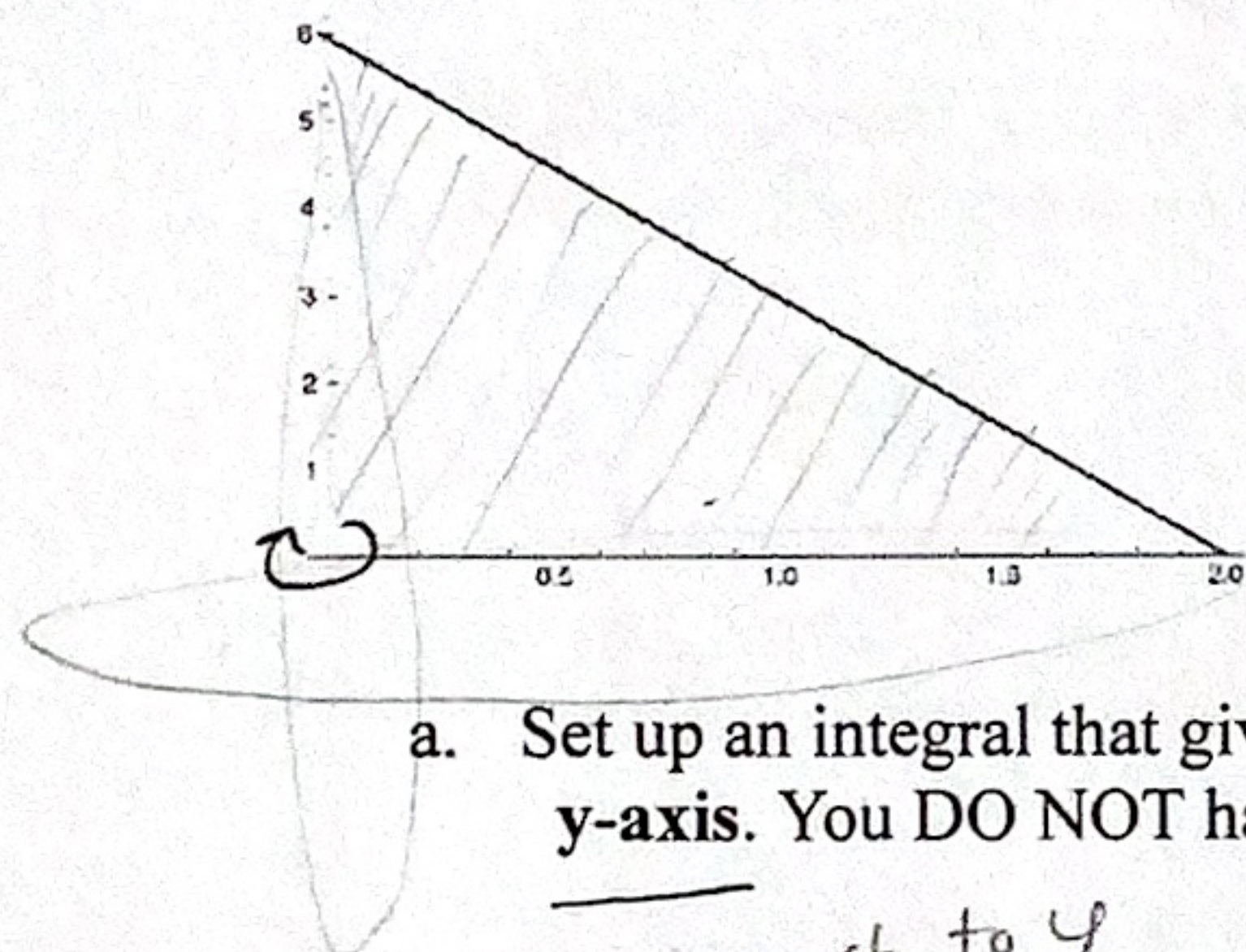


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revise

LT4: Compute the volume of a solid using integrals.

1. Let R be the region (shown below) bounded by the equations
- $y + 3x = 6$
- ,
- $x = 0$
- , and
- $y = 0$
- .



$$y = -3x + 6$$

$$y = -3x + 6 \quad dx$$

$$x = \frac{6-y}{3} \quad dy$$

- a. Set up an integral that gives the volume of the solid obtained by rotating this region about the
- y-axis
- . You DO NOT have to evaluate the integral.

Respect to y

$$V = \int_0^6 \left[\frac{6-y}{3} \right]^2 dy$$

bounds not correct;
you are slicing
along the y-axis,
not the x-axis

- b. Set up an integral that gives the volume of the solid obtained by rotating this region about the
- x-axis
- . You DO NOT have to evaluate the integral.

Respect to x

$$V = \int_0^2 \left[-3x + 6 \right]^2 dx$$

Same issue
with the
bounds here