Math 21D, Spring 2020 - Quiz 0

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Question 1

$$\int_0^1 \int_0^2 xy\,dx\,dy =$$

$$= \int_0^1 \frac{xy^2}{2}\,dx \Big]_0^2$$

$$= \int_0^2 2x\,dx$$

$$= x^2 \Big]_0^1$$

$$= 1$$

Question 2

$$\int_0^2 \int_0^c (4x+y)\,dy\,dx = 8c+4$$

$$\int_0^2 4xy + \frac{y^2}{2}\,dx \Big]_0^c =$$

$$\int_0^2 4cx + \frac{c^2}{2}\,dx =$$

$$4c\frac{x^2}{2} + \frac{c^2}{2}x \Big]_0^2 =$$

$$8c + c^2 = 8c + 4$$

$$c^2 = 4$$

$$c = \pm 2$$