

Quiz 6 Key — MA16010 — October 4, 2017

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Min	Mean	Max
1	3.75	5

1. (2 points) Use implicit differentiation to find $\frac{dy}{dx}$ when $xy^2 = 2 \ln(x)$.

$$\frac{dy}{dx} = \frac{1}{2xy} \left(\frac{2}{x} - y^2 \right)$$

2. (3 points) The sides of an ice cube are shrinking at a rate of 2 centimeters per hour. How fast is the volume of the ice cube decreasing when the side length of the cube is 3 centimeters?

54 cubic centimeters per hour