Quiz 3 (22-03-2018)

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Question 1. [**4 marks**] A 25 feet tree casts a shadow on a sunny day. Let s be the length of the shadow and θ the angle of elevation of the Sun from the tip of the shadow to the top of the tree. Find the rate at which the length of the shadow is changing w.r.t. θ when $\theta = 30°$. Express your answer in units of feet/deg, where "deg" stands for degrees. Also, state the physical interpretation of your answer.

Question 2. [4 marks] If $|\sin(x)|^y = (2y)^x$, then find y'.