

18.022 Recitation Quiz  
20 October 2014

1. Suppose that  $f : \mathbb{R}^2 \rightarrow \mathbb{R}^2$  and  $g : \mathbb{R}^2 \rightarrow \mathbb{R}^2$  are differentiable. Find the total derivative  $D(f \circ g)$ . (Note: you may write  $f$  as  $(f_1, f_2)$ , where  $f_i : \mathbb{R}^2 \rightarrow \mathbb{R}$  for  $i \in \{1, 2\}$ , and similarly for  $g$ .)