2016 **11 f** Find the gradient of the tangent to the curve $y = \tan x$ at the point where $x = \frac{\pi}{8}$. **2**

Give your answer correct to 3 significant figures.

$$y = \tan x$$

$$\frac{dy}{dx} = \sec^2 x$$

$$\frac{dy}{dx}\left(\frac{\pi}{8}\right) = \sec^2 \frac{\pi}{8}$$

$$= \frac{1}{\cos^2 \frac{\pi}{8}}$$

$$= 1.171572857\ldots$$

$$= 1.17 \text{ (3 sig figs)}$$

State Mean: **1.43**

* These solutions have been provided by *projectmaths* and are not supplied or endorsed by BOSTES.

BOSTES: Notes from the Marking Centre

This information is released by BOSTES in late Term 1 2017.