

AP Calculus AB

Friday, December 14, 2012

Finish presentations

Turn in problems

Work on semester exam review

$$y = \tan 2x \quad x = \frac{\pi}{8}$$

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

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

$$= 2\sec^2\left(\frac{\pi}{4}\right)$$

$$= 2\left(\frac{2}{\sqrt{2}}\right)^2$$

$$= 2\left(\frac{4}{2}\right)$$

$$= 4$$

$$f'(x) = x^3(x+2)^2$$

$$f''(x) = x^3 \cdot 2(x+2) + 3x^2(x+2)^2$$

$$f''(x) = x^2(5x^2 + 16x + 12)$$

$$f''(x) = x^2(5x+4)(x+2)$$

