AP Calculus AB

Wednesday, September 19, 2012

Check HW answers with each other & write problem problems on the real boards.

9) $y = \dfrac{x^3+8}{x+2}$

$f(x) = \dfrac{(x+2)(x^2-2x+4)}{(x+2)}$

$f(x) = x^2-2x+4$

$f'(x) = 2x-2$

15) $y = \dfrac{(x^2-x+2)^2}{x}$

$y = \dfrac{(x^2-x+2)(x^2-x+2)}{x}$

$y = \dfrac{x^4-2x^3+5x^2-4x+4}{x}$

$y = x^3-2x^2+5x-4+4x^{-1}$

$y' = 3x^2-4x+5-4x^{-2}$

$y' = 3x^2-4x+5-\dfrac{4}{x^2}$

⑨ $f(x) = 2 \cdot \sqrt[3]{x^5}$

$f(x) = 2x^{5/3}$

$f'(x) = 2 \cdot \frac{5}{3} x^{2/3}$

$f'(x) = \frac{10}{3}\sqrt[3]{x^2}$

same → $\frac{10\sqrt[3]{x^2}}{3}$

⑪ $y = \frac{x^2+1}{\sqrt{x}}$

$y = \frac{x^2}{x^{1/2}} + \frac{1}{x^{1/2}}$

$y = x^{3/2} + x^{-1/2}$

$y' = \frac{3}{2}x^{1/2} + \frac{-1}{2}x^{-3/2}$

$y' = \frac{3\sqrt{x}}{2} + \frac{-1}{2\sqrt{x^3}}$

Even More Practice:

p. 113: 3-30, 39-50