Quiz C:
Differentiation Proficiency. -- NO CALCULATOR ALLOWED!
Simplify as much as possible (you do NOT have to factor, however).
Put a box around your final answer.

(1) $y = \frac{1}{3}x^6$

(2) $y = 4x^4 + 3x^3 + \ln(2)$

(3) $y = x\sqrt{x} + \dfrac{1}{x^2}$

(4) $y = \sqrt{2t^3 - 4}$

(5) $y = \cos(2\theta)$

(6) $y = 4e^{x^2} + 1$

(7) $y = e^x \cdot \sin(2x)$

(8) $y = \ln(e^x + 1)$

(9) $y = \sin(x) \cdot \ln(x)$

(10) $y = \dfrac{1+x}{1-x}$