HW01

Wednesday, August 24, 2016 5:14 PM

1. $A = 2$ 2. $C = 2$ 3. $L = \frac{D}{\cos\theta}$ 4. $x = L\cot\theta$

5. a) $f' = -6x^{-4}$ b) $f' = 2\sin(5x^2) + 20x^2\cos(5x^2)$

6. a) $-\frac{1}{x} + C$ b) $\frac{1}{8}x^8 + C$

Part II

1. a) $[b] = \frac{m}{s}$ $[c] = \frac{m}{s^2}$

b) $t = b/c$

c) $v_x = b - 2ct$

d) $t = \frac{b}{2c}$

e) $a_x = -2c$

2. $v_x = \frac{1}{2}ct^2 - \frac{1}{3}dt^3$

$x = \frac{1}{6}ct^3 - \frac{1}{12}dt^4$

$v_{max} = \frac{1}{6}\frac{c^3}{d^2}$

3.