



In the triangle shown above, if θ increases at a constant rate of 3 radians per minute, at what rate is y decreasing in units per minute when x equals 3 units?

2. A particle moves along a horizontal line so that at any time t its position is given by $x(t) = 2\pi t + \cos(2\pi t)$.

(a) Find the velocity at time t .

(b) Find the acceleration at time t .

(c) What are all values of t for $0 \leq t \leq 3$, for which the particle is at rest. Justify your answer.

d) When is particle moving left? Moving right? Justify with because statement

3) Find dy/dx $y \sec x = 12 - 3y + 5x^2$

4) - MVT: $f(x) = x - 2\sin x$ $[-\pi, \pi]$