4. $\frac{dP}{dt} = 6000$, $p = 5000 - 30x$ $C = 3000x + 6000$ $x = 50$

FIND $\frac{dx}{dt}$

$P = R - C$

$P = xp - C$

$P = x(5000 - 30x) - (3000x + 6000)$

$P = 5000x - 30x^2 - 3000x - 6000$

$P = -30x^2 + 2000x - 6000$

$\frac{d}{dt}(P) = \frac{d}{dt}(-30x^2 + 2000x - 6000)$

$\frac{dP}{dt} = (-60x + 2000)\frac{dx}{dt}$

$6000 = (-60 \cdot 50 + 2000)\frac{dx}{dt}$

$6000 = (-3000 + 2000)\frac{dx}{dt}$

$6000 = -1000 \cdot \frac{dx}{dt}$

$\frac{6000}{-1000} = \frac{dx}{dt}$

$-6 = \frac{dx}{dt}$