

Derivative Rules:

$f(x)$	$f'(x)$
c	0
x	1
x^n	nx^{n-1}
$c f(x)$	$c f'(x)$
$[f(x) \pm g(x)]$	$f'(x) \pm g'(x)$

#2

#12

#14

#26

Definition— Let $C(x)$ = total cost of producing x units, $R(x)$ = total revenue from selling x units, $P(x)$ = total profit from producing and selling x units.

Marginal Cost is the additional cost of producing one more unit or the rate at which costs are rising. In other words marginal cost is the derivative of the cost function. $MC(x) = C'(x)$. Similarly, marginal revenue $MR(x)$ is the derivative of the revenue function, $MR(x) = R'(x)$, and marginal profit, $MP(x)$ is the derivative of the profit function, $MP(x) = P'(x)$.

#34

#38