

~~التقسيم الى فترات~~

t: hours  
 القدر الكلي  
 لا يوجد له معنى

max. at  $t=9$ , but in an 8 hour shift, max at  $t=8$ .  
~~The number of hours before production is maximized.~~  
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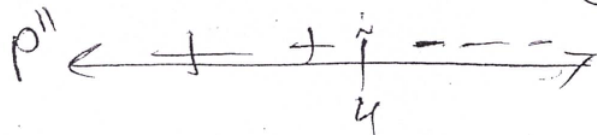
b) Find the number of hours before the rate of ~~P(t)~~ production is maximized. That is find the point of diminishing returns.

$$P'(t) = 27 + 24t - 3t^2 \quad (\text{rate of production})$$

$$\rightarrow P''(t) = 24 - 6t = 0$$

$$\frac{24}{-24} - 6t = \frac{0}{-24} \rightarrow \frac{-6t}{-6} = \frac{-24}{-6}$$

$$t = 4$$



max. of the rate of production at  $t=4$ .

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