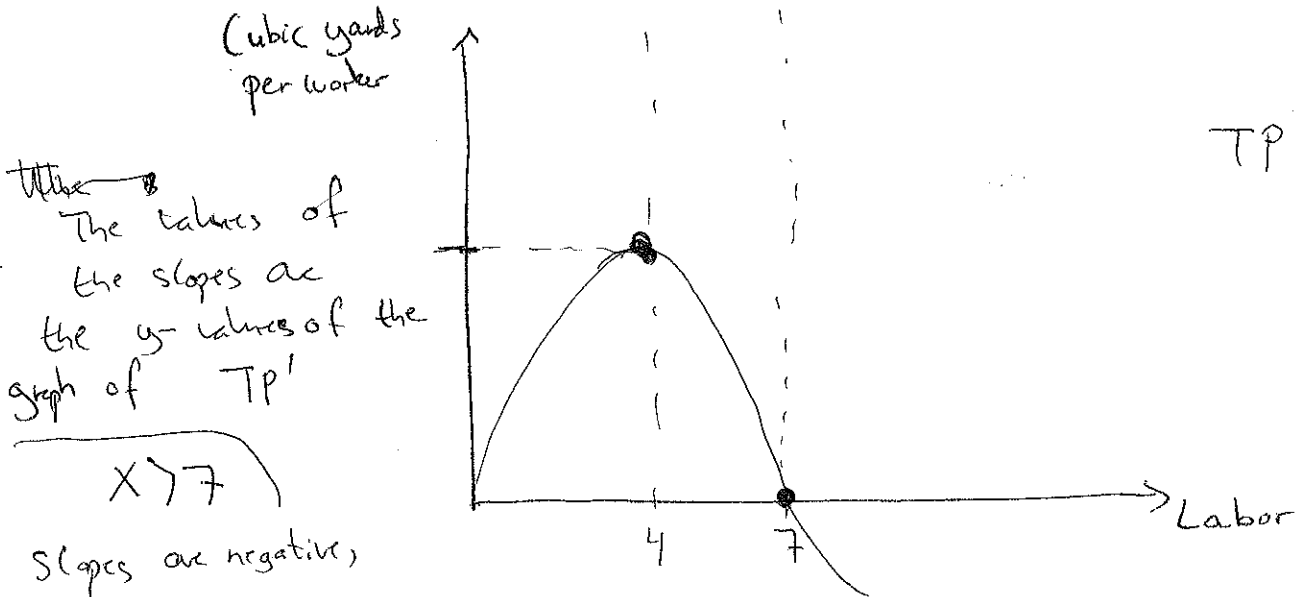
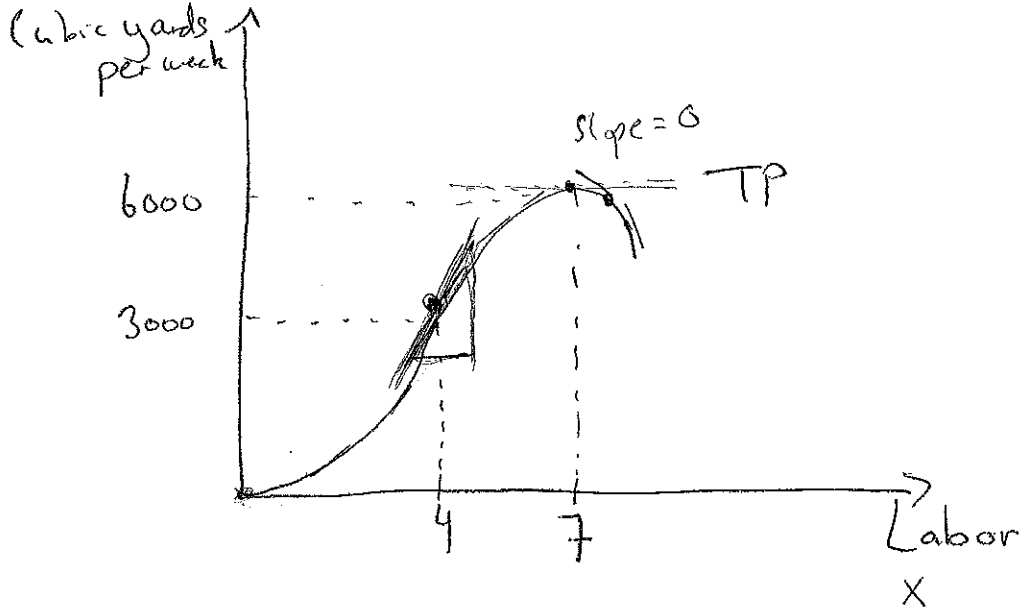


3.5: Graphical differentiation

In this section, we will draw the graph of the derivative $f'(x)$ of $f(x)$.

Example. The following graph shows the total production TP , measured in cubic yards of landscape mulch per week, as a function of labor used, measured in workers hired by a small business. Draw the graph of the marginal production curve which is the derivative of the total production function.



The values of the slopes are the y-values of the graph of TP'

$$x > 7$$

Slopes are negative,
So ~~TP' < 0~~

$$TP' < 0$$

$$0 < x < 7$$

slopes are positive

$$TP' > 0$$

At $x=4$,

the slope is largest
So $f'(x)$ is largest
at $x=4$

DERIVATIVE GRAPHS (2.3)

NAME _____

Sketch the graph of the derivative of each of the following functions.

$f'(x) = 0$ at $x = -6, -3, 0, 3, 6$

