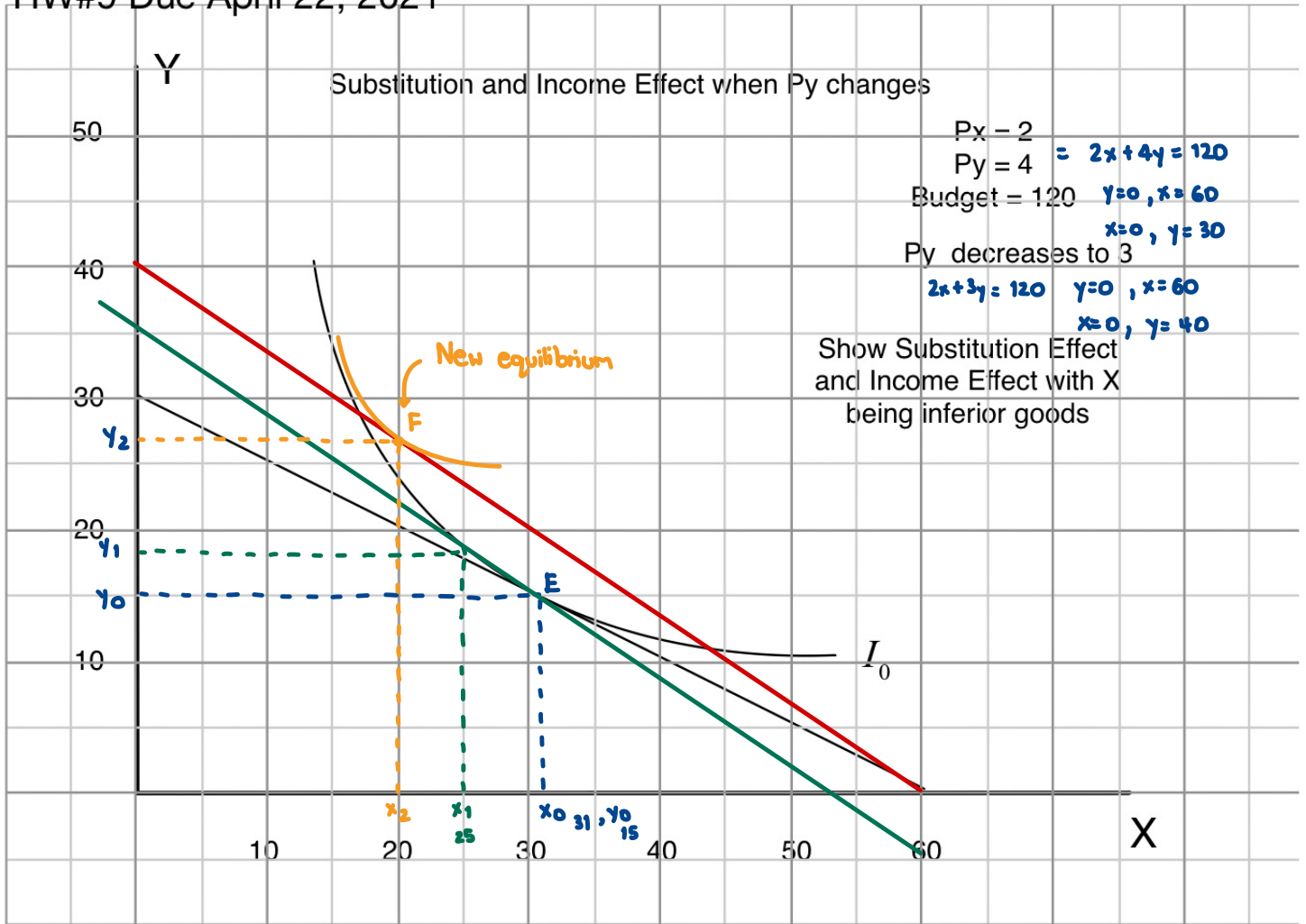


HW#9 Due April 22, 2021



- Imaginary budget line

S.E. = $\begin{cases} \Delta x = x_1 - x_0 = 25 - 31 = -6 < 0 \\ \Delta y = y_1 - y_0 = 19 - 15 = 4 > 0 \end{cases}$

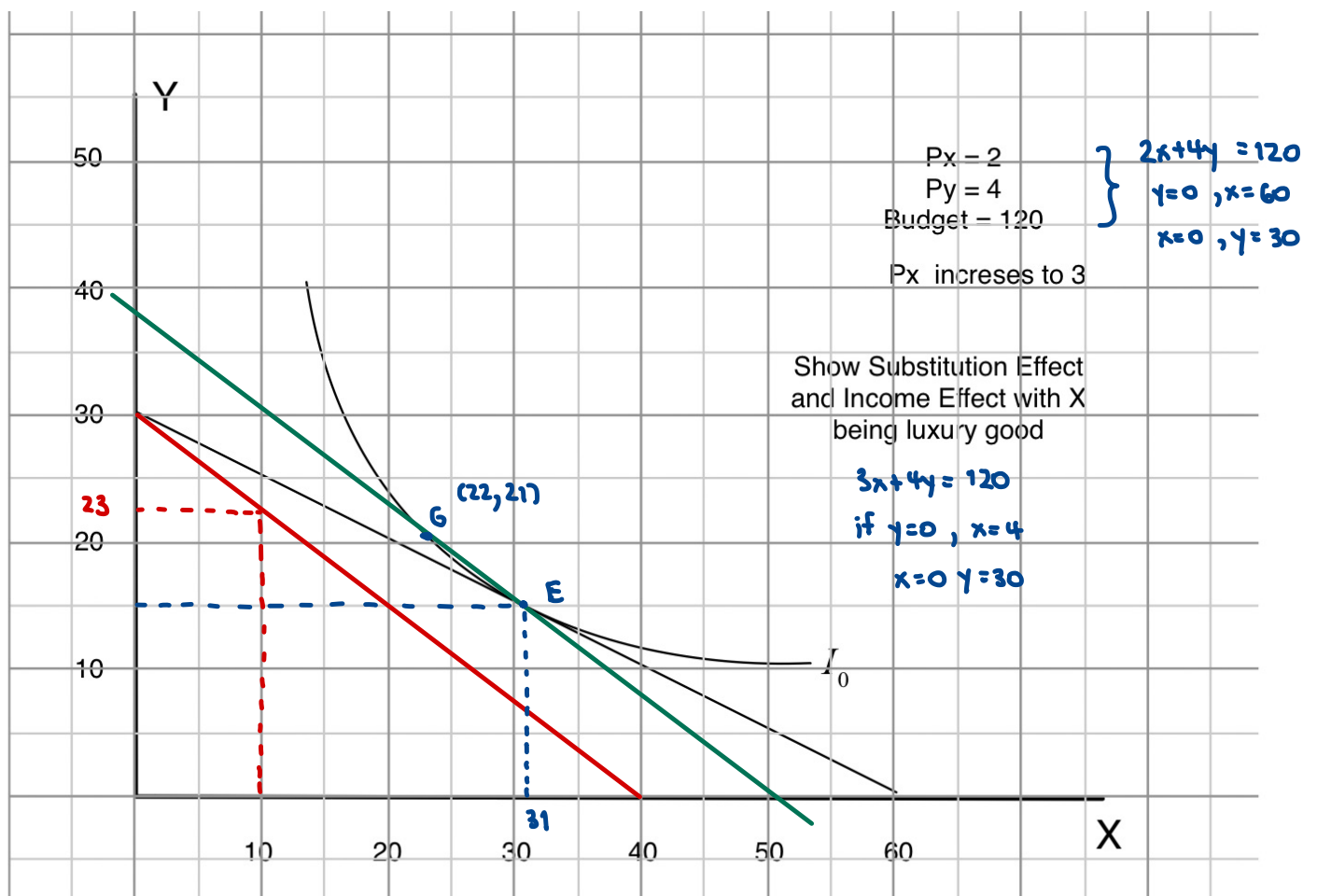
I.E. = $\begin{cases} \Delta x = x_2 - x_1 = 20 - 25 = -5 < 0 \\ \Delta y = y_2 - y_1 = 27 - 19 = 8 > 0 \end{cases}$

Total Effect = S.E. + I.E.

T.E. = $\begin{cases} \Delta x = x_2 - x_0 = 20 - 31 = -11 < 0 \\ \Delta y = y_2 - y_0 = 27 - 15 = 12 > 0 \end{cases}$

P_y decrease \rightarrow consume less x and more y

\Rightarrow x and y are substitute product



$$S.E. = \begin{cases} \Delta x = x_1 - x_0 = 22 - 31 = -9 < 0 \\ \Delta y = y_1 - y_0 = 21 - 15 = 6 > 0 \end{cases}$$

$$I.E. = \begin{cases} \Delta x = x_2 - x_1 = 10 - 22 = -12 < 0 \\ \Delta y = y_2 - y_1 = 23 - 21 = 2 > 0 \end{cases}$$

$$T.E. = \begin{cases} \Delta x = x_2 - x_0 = 10 - 31 = -21 < 0 \\ \Delta y = y_2 - y_0 = 23 - 15 = 8 > 0 \end{cases}$$

} less real income \rightarrow consume less x
 more y
 $\rightarrow x$ is luxury,
 y is inferior