HW#9 Due April 22, 2021

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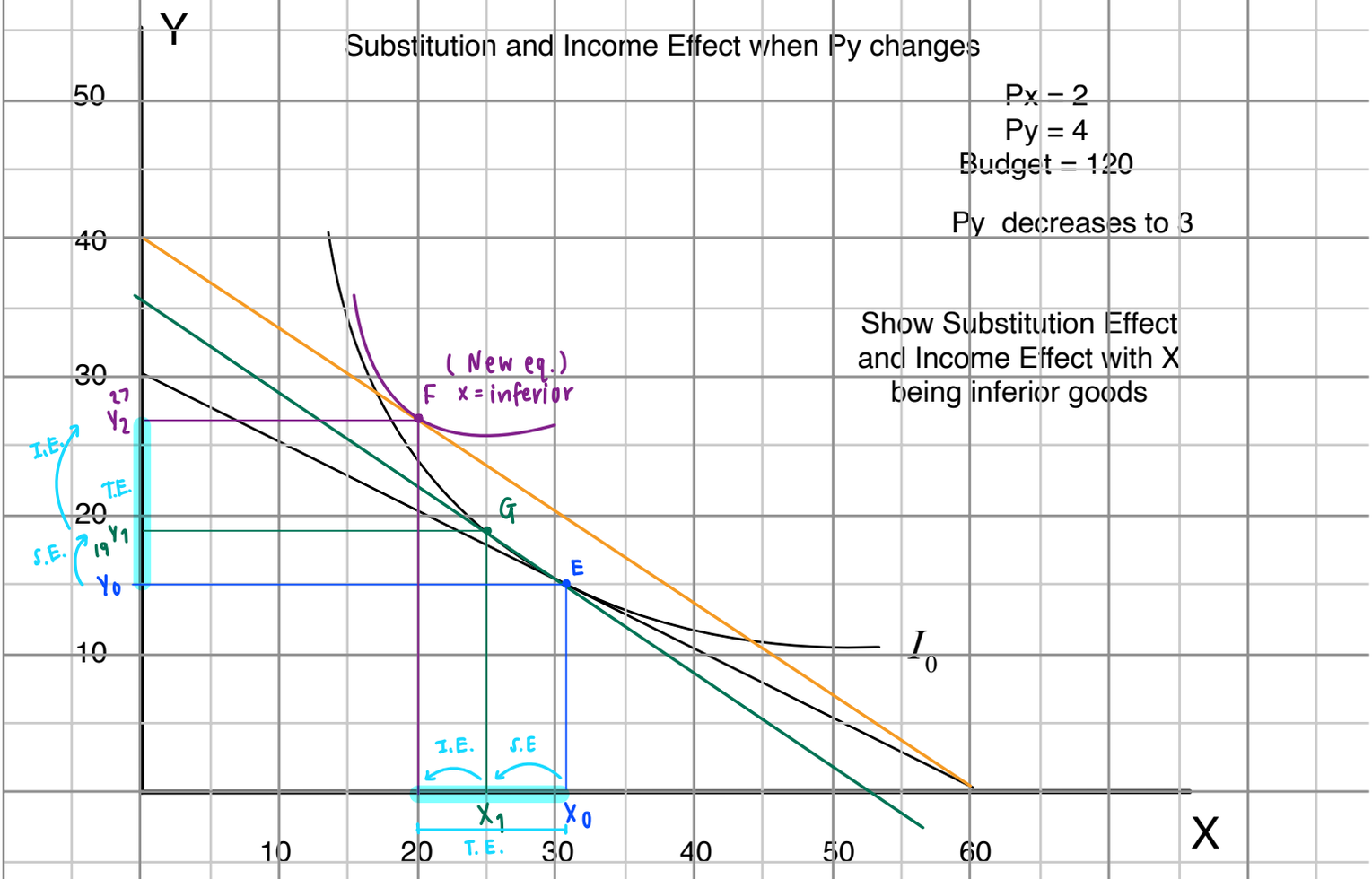
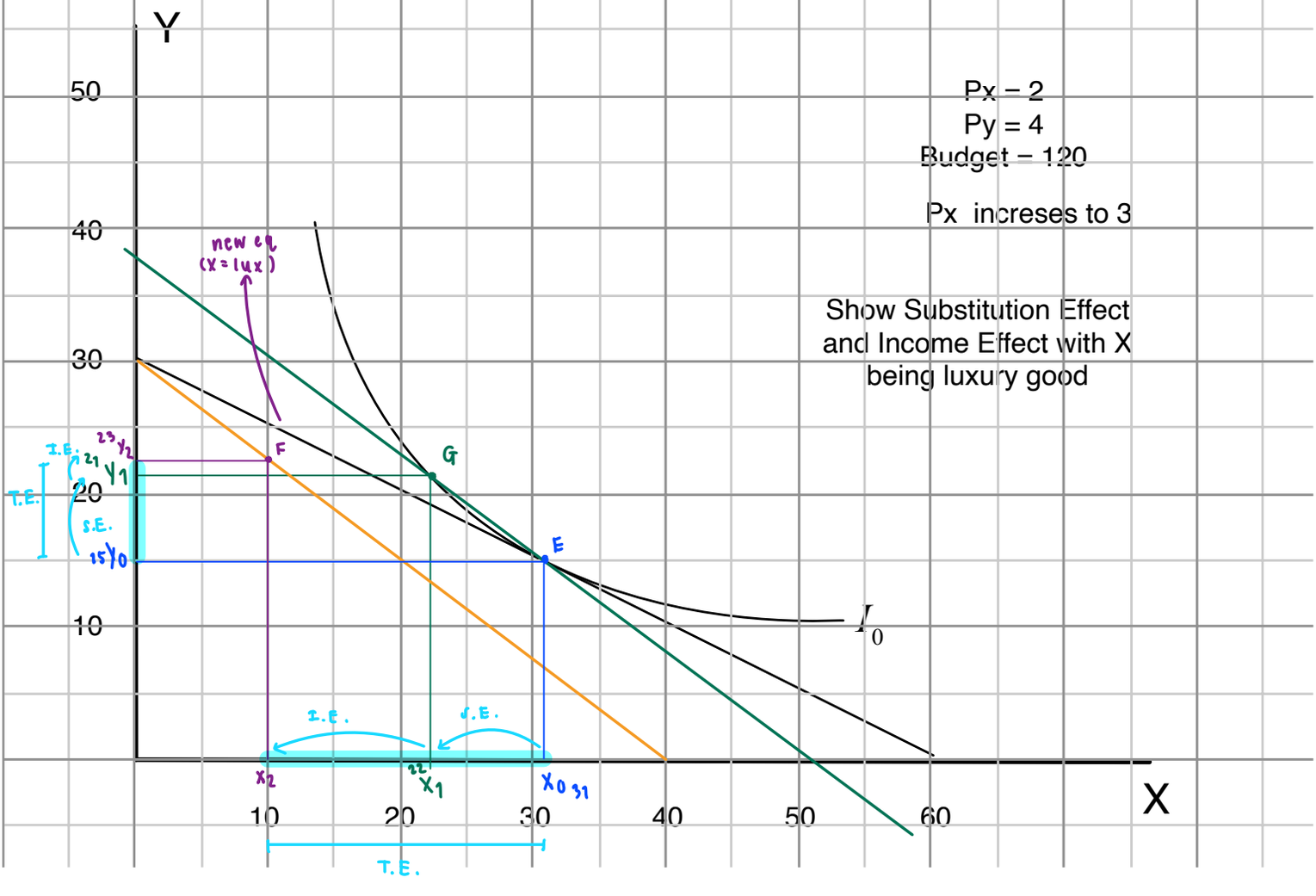
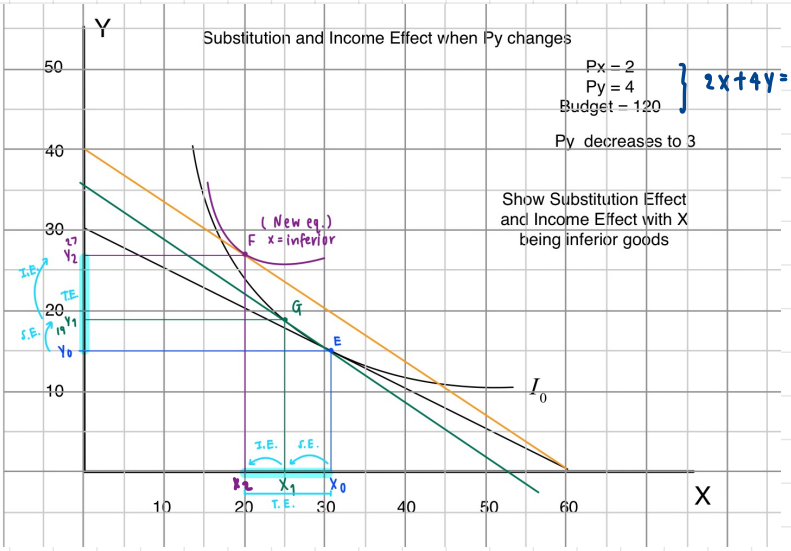






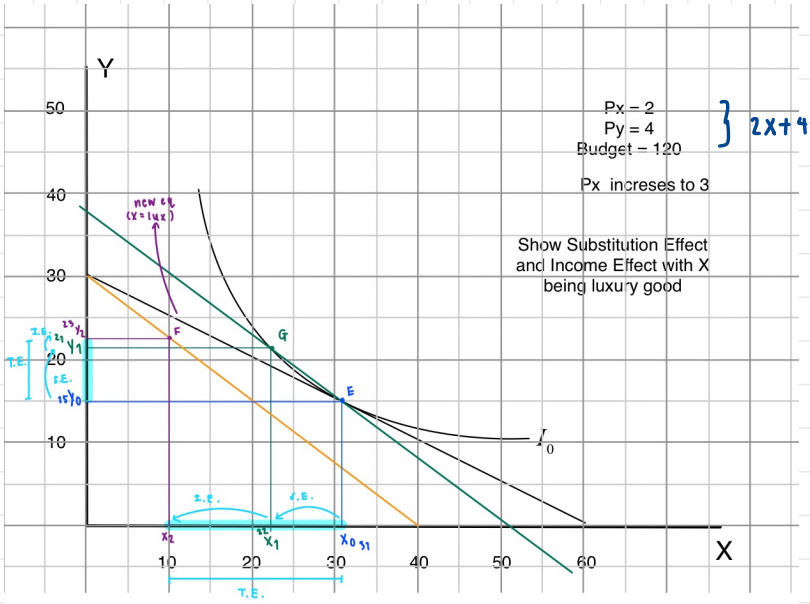
$2X+4Y=120$ | $y=0;\ X=60$ | $x=0;\ y=30$ | $2X+3Y=120$ if $y=0;\ X=60$, $x=0;\ Y=40$

$$S.E. = \begin{cases} \Delta X = X_1 - X_0 = 25-31 = -6 < 0 \\ \Delta Y = Y_1 - Y_0 = 19-15 = 4 > 0 \end{cases}$$

$$I.E = \begin{cases} \Delta X = X_2 - X_1 = 20-25 = -5 < 0 \\ \Delta Y = Y_2 - X_1 = 27-19 = 8 > 0 \end{cases}$$

$$T.E. = \begin{cases} \Delta X = X_2 - X_0 = 20-31 = -11 < 0 \\ \Delta Y = Y_2 - Y_0 = 27-15 = 12 > 0 \end{cases}$$

∴ Py ↓ , consume less X and more Y
(X and Y = substitute product)
More real income, consume less X and more Y
(X = inferior, Y = luxury)



$2X+4Y=120$ | $y=0;\ X=60$ | $x=0;\ y=30$ | $3X+4Y=120$ if $y=0;\ X=40$, $x=0;\ Y=30$

$$S.E. \begin{cases} \Delta X = X_1 - X_0 = 22-31 = -9 < 0 \\ \Delta Y = Y_1 - Y_0 = 21-15 = 6 > 0 \end{cases}$$

$$I.E. \begin{cases} \Delta X = X_2 - X_1 = 10-22 = -12 < 0 \\ \Delta Y = Y_2 - Y_1 = 23-21 = 2 > 0 \end{cases}$$

$$T.E. \begin{cases} \Delta X = X_2 - X_0 = 10-31 = -21 < 0 \\ \Delta Y = Y_2 - Y_0 = 23-15 = 8 > 0 \end{cases}$$

∴ Px ↑ , consume less X and more Y
(X and Y = substitute product)
Less real income, consume less X and more Y
(X = luxury, Y = inferior)

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