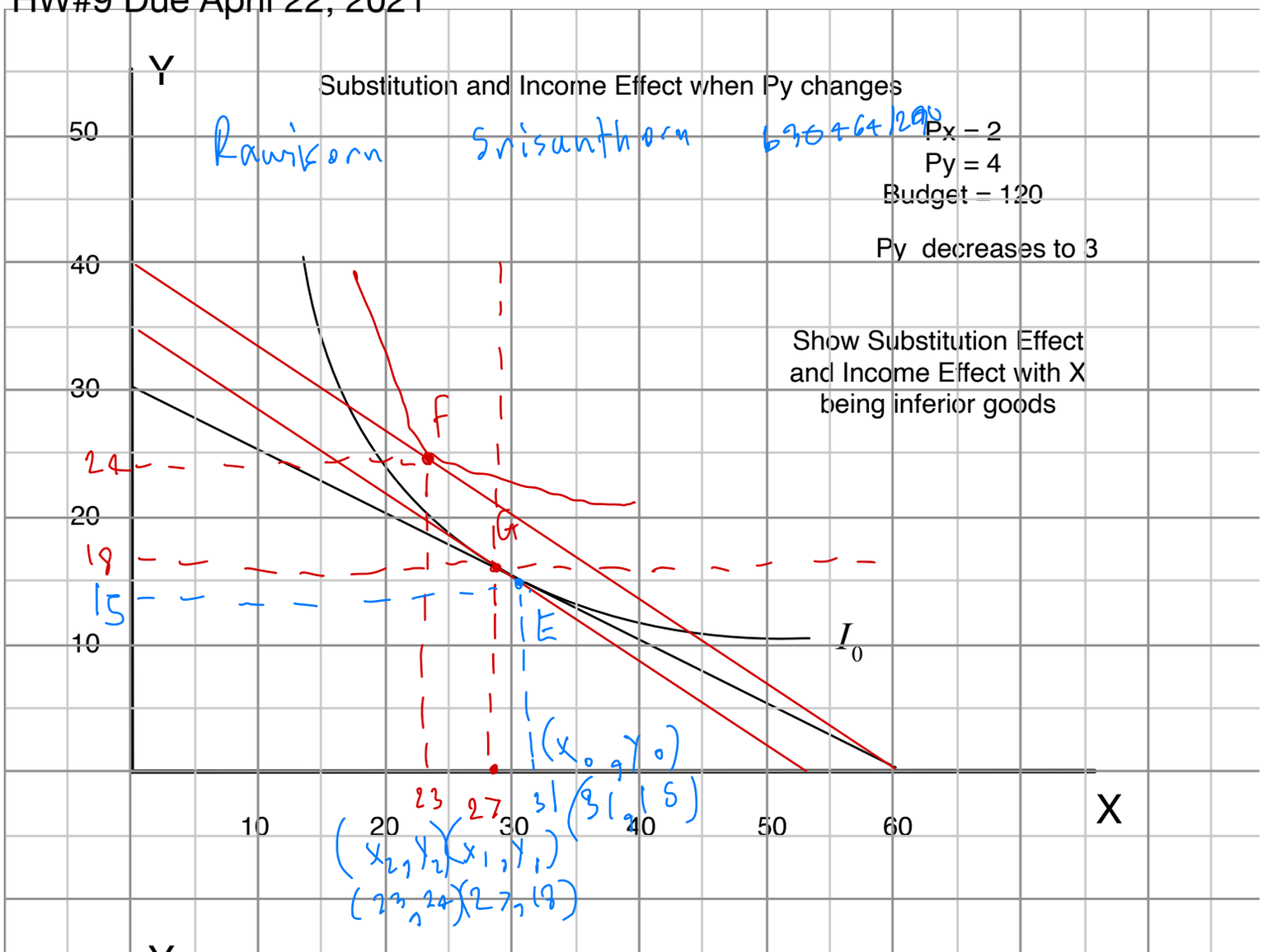
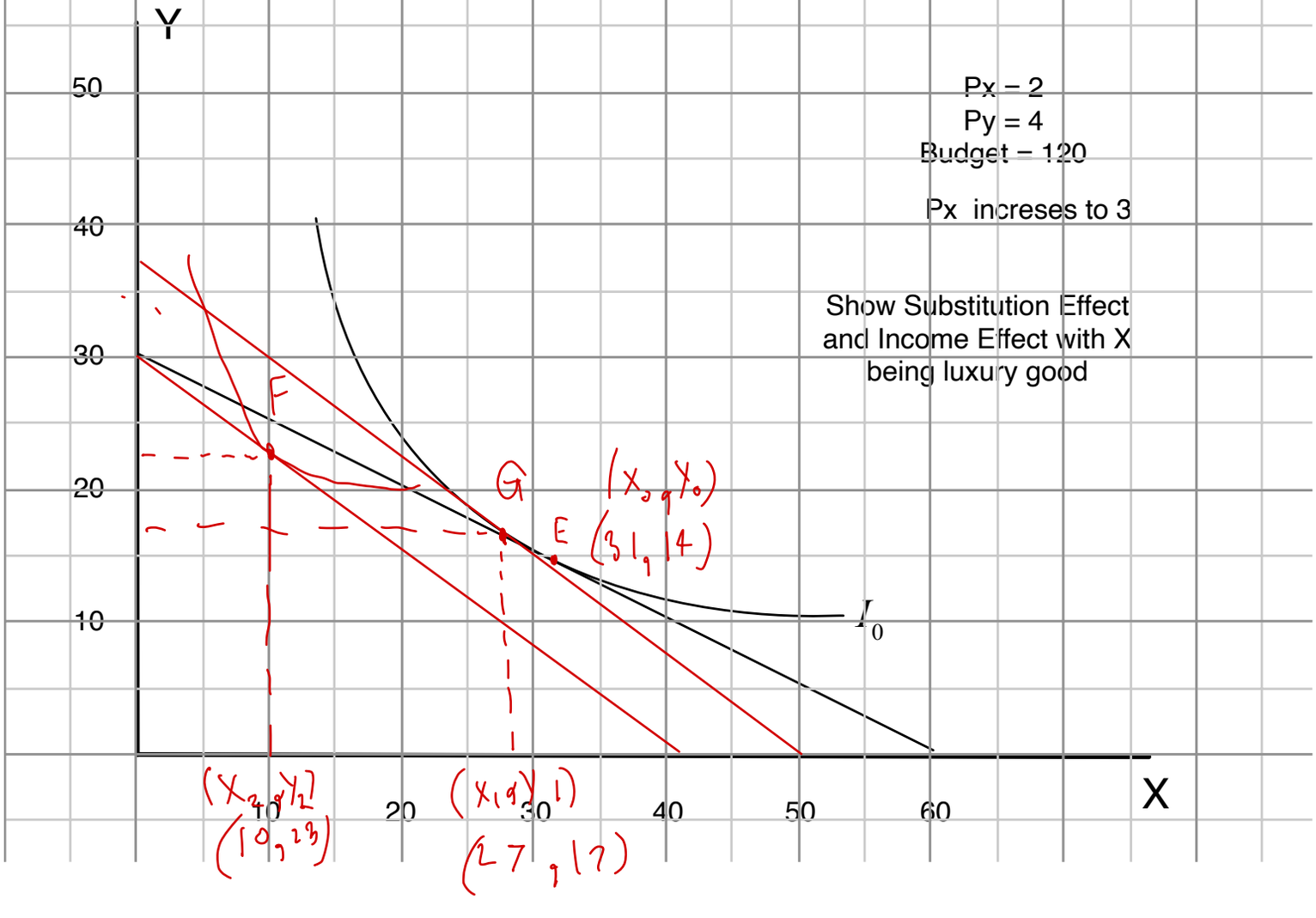
HW#9 Due April 22, 2021





7) old

$XP_X + YP_Y = B$

$2x + 4y = 120$

$4y = -2x + 120$

$y = -\frac{1}{2}x + 30$

new

$XP_X + YP_Y = B$

$2x + 3y = 120$

$3y = -2x + 120$

$y = -\frac{2}{3}x + 40$

y intercept $= 40$

x intercept $= 60$

1) Equilibrium change from E to F

Py decrease → consume less X and more Y → X and Y are substitute product

slope change from $-\frac{1}{2}$ → $-\frac{2}{3}$

SE. = $\Delta X = X_1 - X_0 = 27 - 31 = -4 < 0$

$\Delta Y = Y_1 - Y_0 = 18 - 15 = 3 > 0$

more new imaginary budget line on same IC

IE. = $\Delta X = X_2 - X_1 = 23 - 27 = -4 < 0$

$\Delta y = Y_2 - Y_1 = 24 - 18 = 6 > 0$

TE = $\Delta X = X_2 - X_0 = 23 - 31 = -8$

$= \Delta Y = Y_2 - Y_0 = 24 - 15 = 9$

2) old

$XP_x + YP_y = B$

$2X + 4y = 120$

$4y = -2X + 120$

$y = -\frac{1}{2}X + 30$

new

$3X + 4Y = 120$

$4Y = -3X + 120$

$Y = -\frac{3}{4}X + 30$

y intercept $= 30$

x intercept $= 40$

Equilibrium change from E to F

P_x increase => consume less x and more y (substitute product)

- slope changes from $-\frac{1}{2}$ to $-\frac{3}{4}$

so we draw imaginary budget line on same IC

S.E. : $\Delta X = X_1 - X_0 = 27 - 31 = -4 < 0$

$\Delta Y = Y_1 - Y_0 = 17 - 14 = 3 > 0$

move new imaginary budget line

I.E. : $\Delta X = X_2 - X_1 = 10 - 27 = -17 < 0$

$\Delta Y = Y_2 - Y_1 = 23 - 17 = 6 > 0$

less real income consume less x but more y this mean x is luxury, y is inferior

T.E : $\Delta X = X_2 - X_0 = 10 - 31 = -21$

$\Delta Y = Y_2 - Y_0 = 23 - 14 = 9$