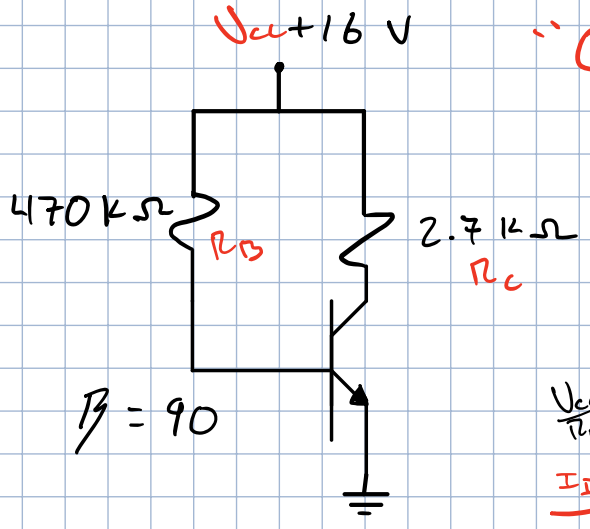
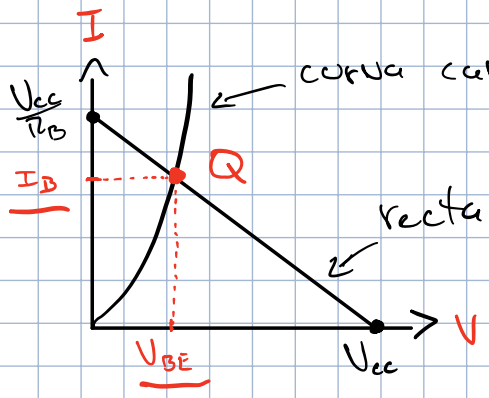
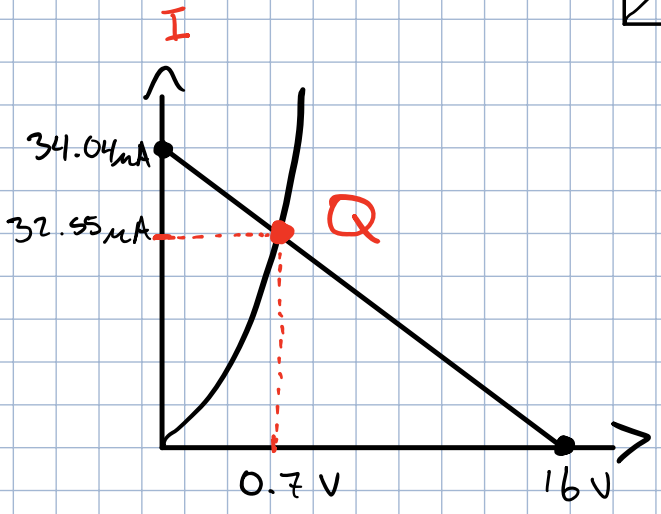
Obtener los puntos de operación "Q" del transistor en polarización fija.





$Q(V_{BE}, I_B)$

$V_{BE} = 0.7\ V$



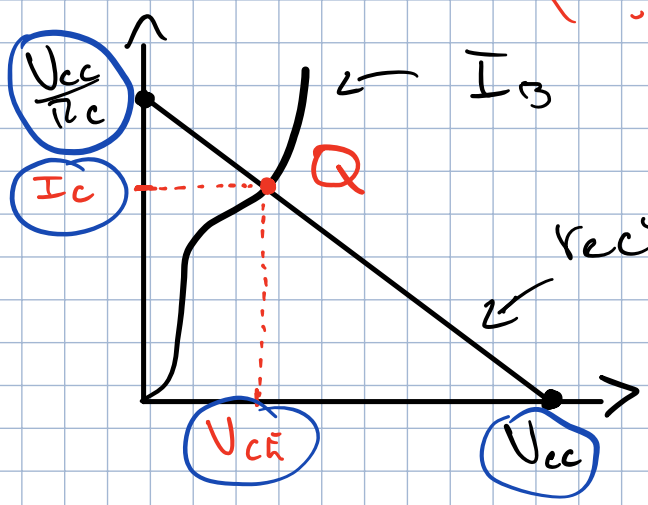
$$\frac{V_{cc}}{R_B} = \frac{16\ V}{470 \times 10^3\ \Omega} = 34.04 \times 10^{-6}$$

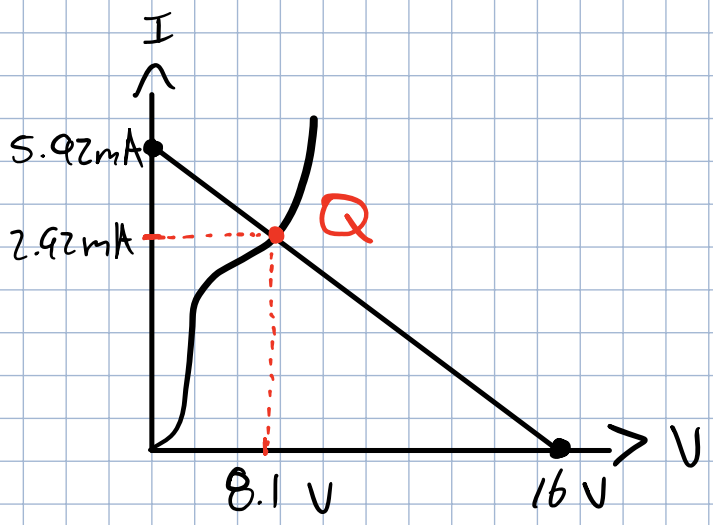
$34.04\ \mu A$

$$I_B = \frac{V_{cc} - V_{BE}}{R_B} = \frac{16 - 0.7}{470 \times 10^3} = 32.55 \times 10^{-6}\ A$$

$I_B = 32.55\ \mu A$

$Q(0.7,\ 32.55\ \mu)$





$$\frac{V_{cc}}{R_c} = \frac{16\ V}{2.7 \times 10^3\ \Omega} = 5.92 \times 10^{-3}$$

$5.92\ mA$

$$I_{CQ} = \beta I_B$$

$$I_{CQ} = (90)(32.55 \times 10^{-6})$$

$$I_{CQ} = 2.92 \times 10^{-3}\ A$$

$$I_{CQ} = 2.92\ mA$$

$$V_{CE} = V_{cc} - (I_{CQ} R_c)$$

$$V_{CE} = 16 - [(2.92 \times 10^{-3})(2.7 \times 10^3)]$$

$$V_{CE} = 16 - 7.884 \qquad V_{CE} = 8.1$$

$$Q(8.1\ V,\ 2.92\ mA)$$