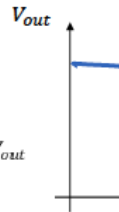
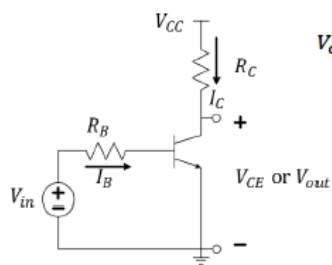


L17Q1	Vin = .3V	6	V
	Vin = 1V	5	V
	Vin = 2.5V	0.2	V
	Vin = 3.5V	0.2	V

L17Q2			
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- A. $V_{in} = \frac{V_{CC} - V_{CE,sat}}{R_C}$
- B. $V_{in} = V_{CC} + V_{BEon}$
- C. $V_{in} = V_{CE,sat} + I_B R_B$
- D. $V_{in} = V_{CC} - I_C R_C + I_B R_B$
- E. $V_{in} = V_{BEon} + \frac{R_B}{\beta R_C} (V_{CC} - V_{CE,sat})$

Regime	Vin	IB	IC	VC
cutoff:	$V_{in} < V_{on}$	$I_B = 0$	$I_C = 0$	$V_{CE} = V_{CC}$
active:	$V_{on} < V_{in} < V_{in@sat}$	$0 < I_B < \frac{I_{C,sat}}{\beta}$	$0 < I_C < I_{C,sat}$	$V_{CE,sat} < V_{CE} < V_{CC}$
saturation:	$V_{in} > V_{in@sat}$	$I_B > \frac{I_{C,sat}}{\beta}$	$I_C = I_{C,sat}$	$V_{CE} = V_{CE,sat}$

L17Q2: What is the formula for minimum V_{IN} which causes saturation?

$V_{in@sat} = \text{answser E above.}$

L17Q3	What are the four values 1, 2, 1, 2?	6	V
		0.2	V
		0.7	V
		2.44	V
L17Q4	What is the slope in the active region?	-3.33	
L17Q5	If $V_{IN}=1.2+0.2\cos(2\pi 100t)$ what is the equation for V_{out} ?		
	$V_{out}=3.7-1.4\cos(2\pi 100t)$		
L17Q6	What is different if $V_{in}=1.2+0.6\cos(2\pi 100t)$?		the signal will 'clip'
	Vin extends into both the saturations and cutoff regions		
L17Q7	What transistor regimes are entered if $V_{in}=1.1+0.3\cos(\omega t)$?		Active only