Lecture 20 -- Differential Amplifiers

How do you find the differential and common mode of any two signals?

What is the advantage of differential mode signalling?

Draw an emitter coupled pair, annotate the tail node and the tail current

What does Rtail represent

What is the large signal relationship between the differential voltage and the left and right currents in an emitter coupled pair? Does it have linearity over a wide v_id range?

What is the definition of differential mode gain? Common mode gain? CMRR?

What is the basic idea of ½ circuit analysis?

Draw a differential mode half circuit for an emitter coupled pair and record its gain and Rin

Draw a common mode ½ circuit for an emitter coupled pair and record its gain and Rin

How do you handle element that bridge the differential “midpoint” of a circuit in a ½ circuit?