

$$\text{Then } V_{thn} = |V_{thp}|$$

$$\beta_n = \beta_p$$

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$$v_o = \frac{V_{dd} - V_{thn} + 1 \cdot V_{thn}}{1 + 1}$$

$$= \frac{V_{dd}}{2} \quad \text{as a check}$$

.....

$$\text{rename } \sqrt{\frac{\beta_n}{\beta_p}} = k$$

$$v_o = \frac{V_{dd} - |V_{thp}| + k V_{thn}}{1 + k}$$

given v_o find k : i.e. the
 W_p if W_n, L_n, L_p are
 fixed:

$$v_o + k v_o = V_{dd} - |V_{thp}| + k V_{thn}$$

$$k(v_o - V_{thn}) = V_{dd} - |V_{thp}| - v_o$$