

Question 2:  $\{-5, -5, 67, -10, 21, 8, 4, 1\}$  Insertion

$-5, -1, 67, -10, 21, 8, 4, 1$

$-10, -5, -1, 67, 21, 8, 4, 1$

$-10, -5, -1, 21, 67, 8, 4, 1$

$-10, -5, -1, 8, 21, 67, 4, 1$

$-10, -5, -1, 4, 8, 21, 67, 1$

$-10, -5, -1, 1, 4, 8, 21, 67$

Question 1:  $[1, 25, 31, 16]$  and  $[-3, 0, 16, 27]$   
mergesort

$\swarrow \quad \searrow$   
 $1, 25 \quad 16, 31$   
 $\searrow$

$1, 16, 25, 31$

$\swarrow \quad \searrow$   
 $-3, 0 \quad 16, 27$   
 $\searrow$

$-3, 0, 16, 27$

$\swarrow \quad \nwarrow$   
 $-3, 0, 1, 16, 16, 25, 27, 31$