



Total Number of Students = 45

\* Solve for total of Gray

Total Number of Students Applying to Schools in 2 Regions =  
 $6 + 5 + 4$

Total Number of Students Applying to Schools in 3 Regions =  
 5

Gray = Total - 2 Regions (sum of 2 overlap groups) - 3 Regions (sum of 3 overlap)

$$\text{Gray} = 45 - (6 + 5 + 4) - (5)$$

$$\text{Gray} = 45 - (15) - 5$$

$$\text{Gray} = 20$$