Example 6

Shannon's high school starts a campaign to encourage students to use "green" transportation (bus, cycling, or walking) for travelling to and from school. At the end of the first semester, Shannon's class surveys the 750 students in the school to see if the campaign is working. They obtain these results:

- 370 students take the bus. (5) 370 -
- 100 students cycle and take the bus. (6) 100 − 20 = 80
- 80 students walk and take the bus. (3) 80 − 20 = 60
- 35 students walk and cycle. (4) 35 − 20 = 15
- 20 students walk, cycle and take the bus. (1) = 20
- 445 students cycle or take the bus. (6)
- 265 students walk or cycle.

a) Determine the number of students that use green transportation for travelling to and from school. 750 − 275 = 475 students used green transportation

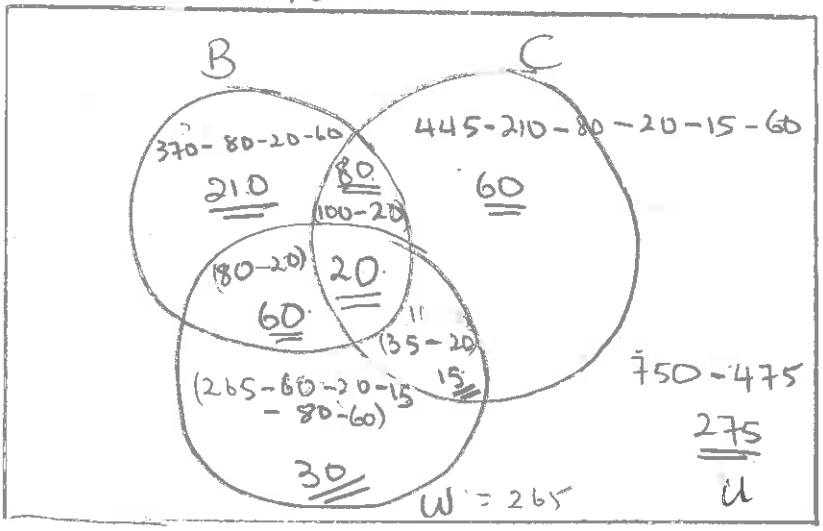
b) Determine the number of students do not use any of these forms of green transportation.

c) What percentage of the students use green transportation?

b) 750 − 210 − 80 − 20 − 60 − 60 − 15 − 30 = 275 people did not use green transportation.

c) $\frac{\text{TOTAL used Green transportation}}{\text{TOTAL surveyed}} \times 100\%$

$\frac{475}{750} \times 100 = 63.33\%$



B = Bus
C = Cycle
W = Walk

n(U) = 750 (TOTAL surveyed)
n(B) = 370
n(C ∩ B) = 100
n(W ∩ B) = 80
n(W ∩ C) = 35
n(W ∩ C ∩ B) = 20

- No. of people who didn't: Walk, Bus, Cycle

750 − 210 − 80 − 20 − 60 − 60 − 15 − 30 = 275

750 − (475) = 275 people.