Problem Solving
Chapter 12 Quiz

10

On the night our play-off was being held, a number of vehicles were in the east parking lot of the gym. Half of the white vehicles were neither cars nor buses. There were 8 buses in all, and only 1 of those was yellow. There were 16 other yellow vehicles, though, and 6 of those were cars. Of a total of 20 cars, 9 were not yellow or white. There were as many white buses as there were buses that were not white. Besides cars and buses, of course, there were vans and trucks. How many white vehicles were there?

10 points
4 points for detailed solution (draw the venn diagram), 4 points for an outline of your approach (list the clues in the order that you use them and show any mathematical calculations), 2 points for final answer *please circle* (How many white vehicles?).

CLUES

½ white vehicles ≠ (5) cars ≠ (4) buses

18 total buses (4 non-white, 4 white)

1 yellow bus

16 other yellow ~~buses~~ vehicles (6 were cars)

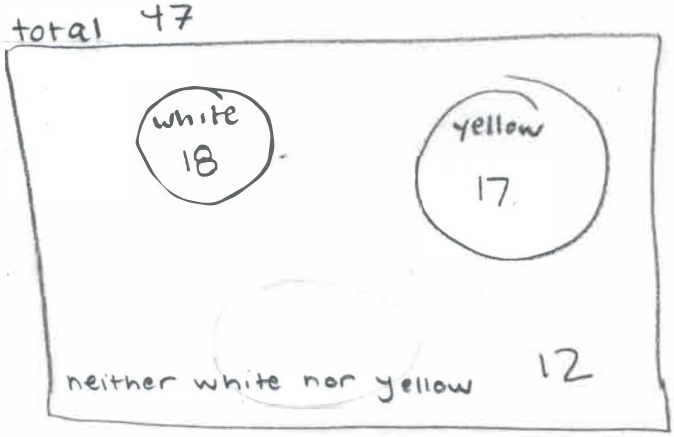
20 cars

↳ 9 were not yellow or white → (11 are yellow or white)

6 yellow → cars
5 white

white buses = # not white buses

½ vans + trucks (other)



9 white cars + buses
+ 9 white (others)
18 white vehicles

9 cars = neither
3 bus = neither
12 neither

18 white vehicles

First we wrote a list of the clues, then we determined how to make the # of non-white/white buses equal because there were 8 total → 4 non-white (1 was yellow) + 4 white → we know thatheres 5 white cars because 11 are yellow or white (and 6 are yellows) so we now know theres ½ of the white vehicles = 9 → so then multiply by 2 to find the # of total white vehicles.

10

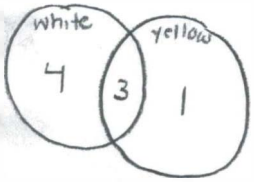
Problem Solving
Chapter 12 Quiz

On the night our play-off was being held, a number of vehicles were in the east parking lot of the gym. Half of the white vehicles were neither cars nor buses. There were 8 buses in all, and only 1 of those was yellow. There were 16 other yellow vehicles, though, and 6 of those were cars. Of a total of 20 cars, 9 were not yellow or white. There were as many white buses as there were buses that were not white. Besides cars and buses, of course, there were vans and trucks. How many white vehicles were there?

10 points
4 points for detailed solution (draw the venn diagram), 4 points for an outline of your approach (list the clues in the order that you use them and show any mathematical calculations), 2 points for final answer *please circle* (How many white vehicles?).

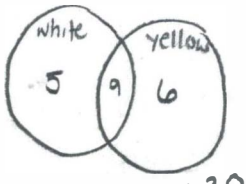
detailed solution

buses



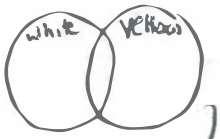
total : 8

cars

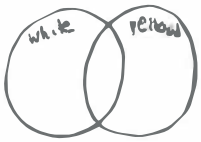


total : 20

trucks



vans



based on clues, there are 9 white so we did not have to complete.

outline/clues

- 1/2 of white were not cars or buses
- 8 total buses, 1 is a yellow bus
- 16 other vehicles, 6 were cars
- 20 total cars, 9 are not yellow or white
- white buses = not white

final answer

There were 18 white vehicles.

18

steps

First, our group read through the problem. Then, we wrote down each of the steps to keep our information organized. We then made 4 venn diagrams for each buses, cars, trucks and vans. We went through the clues and filled in what it gave us. We found that we did not have [illegible]

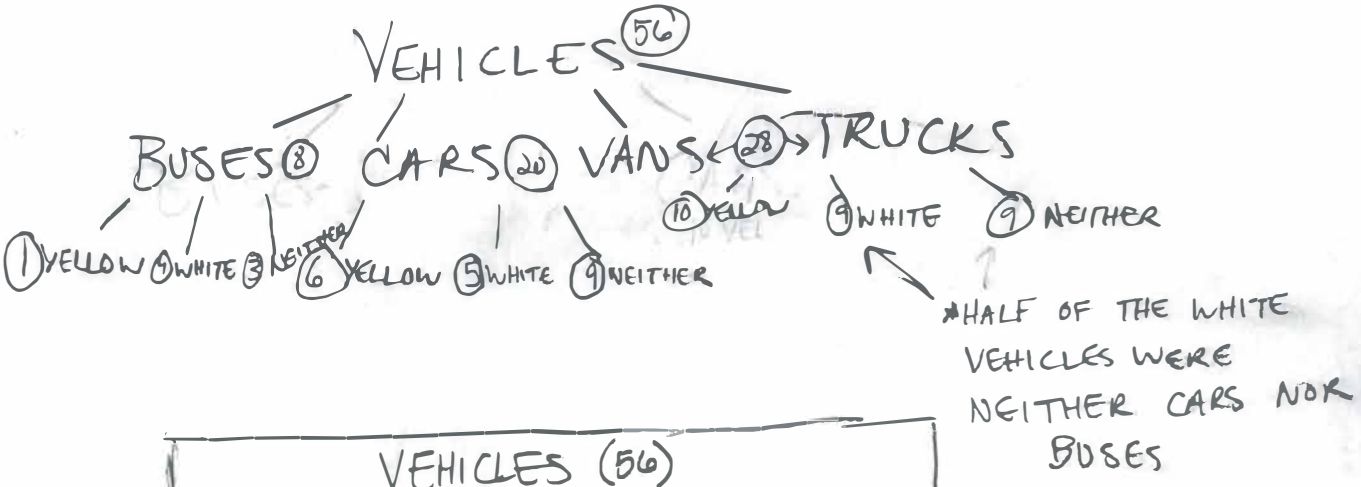
two venn diagrams because it said 1/2 of the white vehicles were not cars nor buses. And we knew there were 9 total white cars and buses. So we did 9×2 to get the total to get our answer of 18.

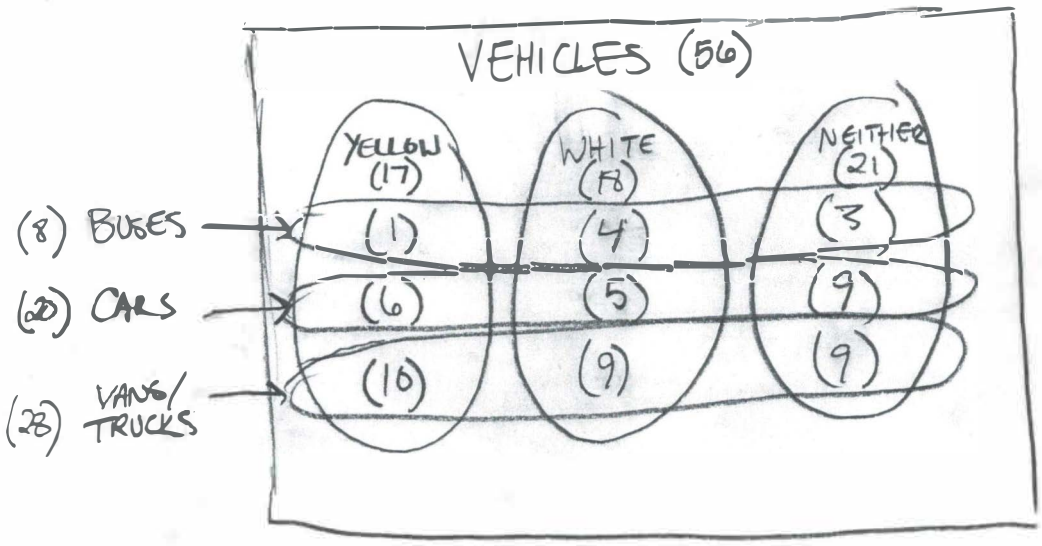
10

Problem Solving
Chapter 12 Quiz

On the night our play-off was being held, a number of vehicles were in the east parking lot of the gym. Half of the white vehicles were neither cars nor buses. There were 8 buses in all, and only 1 of those was yellow. There were 16 other yellow vehicles, though, and 6 of those were cars. Of a total of 20 cars, 9 were not yellow or white. There were as many white buses as there were buses that were not white. Besides cars and buses, of course, there were vans and trucks. How many white vehicles were there?

10 points
4 points for detailed solution (draw the venn diagram), 4 points for an outline of your approach (list the clues in the order that you use them and show any mathematical calculations), 2 points for final answer *please circle* (How many white vehicles?).





18 WHITE VEHICLES

Problem Solving
Chapter 12 Quiz

8

5 white cars

4 white buses

9 white cars or buses

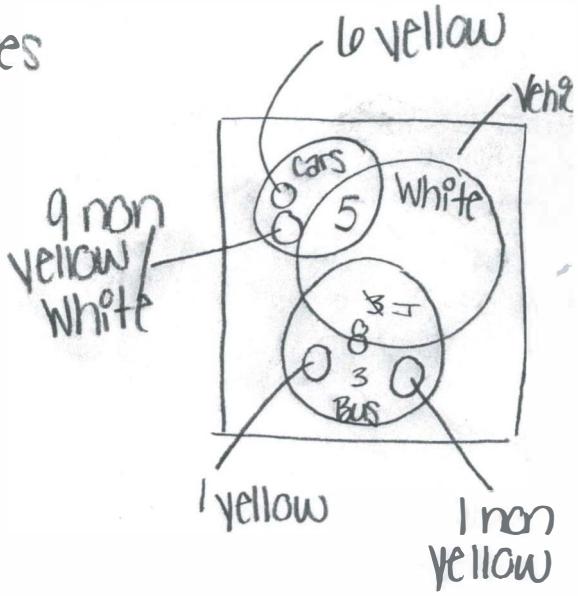
Half were neither cars nor buses so there were 9 white trucks or vans

for a total of 18 white vehicles. You were almost there.

On the night our play-off was being held, a number of vehicles were in the east parking lot of the gym. Half of the white vehicles were neither cars nor buses. There were 8 buses in all, and only 1 of those was yellow. There were 16 other yellow vehicles, though, and 6 of those were cars. Of a total of 20 cars, 9 were not yellow or white. There were as many white buses as there were buses that were not white. Besides cars and buses, of course, there were vans and trucks. How many white vehicles were there?

10 points
4 points for detailed solution (draw the venn diagram), 4 points for an outline of your approach (list the clues in the order that you use them and show any mathematical calculations), 2 points for final answer *please circle* (How many white vehicles?).

1/2 White vehicles were cars not buses
8 buses
1 yellow bus
16 yellow vehicles, 6 were cars
20 total cars
9 were not yellow/White
= # of (non) yellow buses



Problem Solving
Chapter 12 Quiz

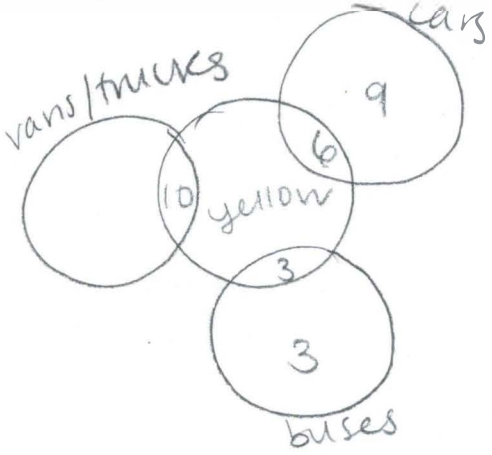
8

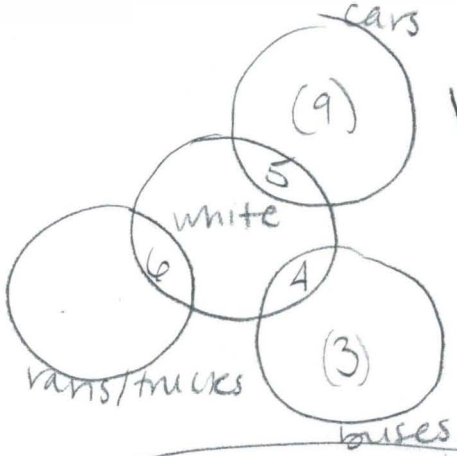
vans or trucks

On the night our play-off was being held, a number of vehicles were in the east parking lot of the gym. Half of the white vehicles were neither cars nor buses. There were 8 buses in all, and only 1 of those was yellow. There were 16 other yellow vehicles, though, and 6 of those were cars. Of a total of 20 cars, 9 were not yellow or white. There were as many white buses as there were buses that were not white. Besides cars and buses, of course, there were vans and trucks. How many white vehicles were there?

10 points
4 points for detailed solution (draw the venn diagram), 4 points for an outline of your approach (list the clues in the order that you use them and show any mathematical calculations), 2 points for final answer *please circle* (How many white vehicles?).

half white ≠ cars nor buses
8 buses in all
1 yellow bus
16 other yellow
6 yellow cars
20 cars
↳ 9 ≠ yellow or white
equal white bus to not white bus





15 white vehicles

Half of the white vehicles were neither buses nor cars so if there were 9 white buses/cars there were 18 total white vehicles

We first wrote down the clues and then made two diagrams to show the colors and vehicles we used the clues to narrow it down to figure out how many white cars there were in total. We totaled up the numbers we got from the narrow clue to get 15 as the final answer.

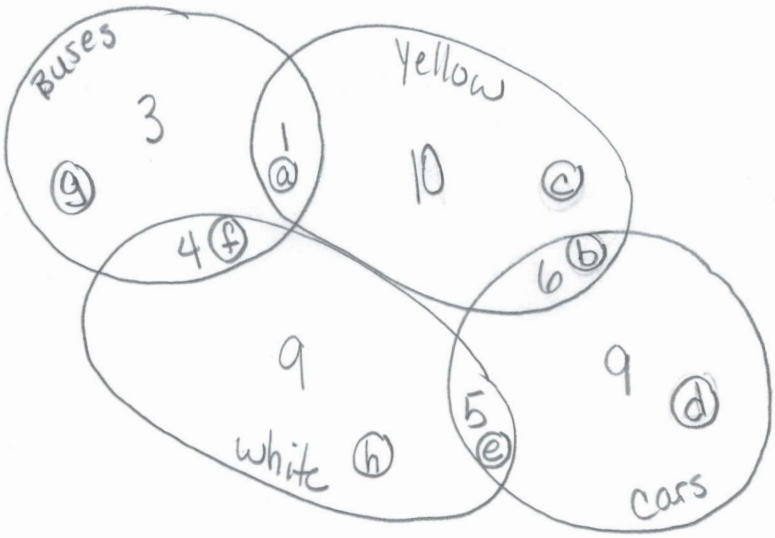
Problem Solving
Chapter 12 Quiz

Name Key

On the night our play-off was being held, a number of vehicles were in the east parking lot of the gym. Half of the white vehicles were neither cars nor buses. There were 8 buses in all, and only 1 of those was yellow. There were 16 other yellow vehicles, though, and 6 of those were cars. Of a total of 20 cars, 9 were not yellow or white. There were as many white buses as there were buses that were not white. Besides cars and buses, of course, there were vans and trucks. How many white vehicles were there?

10 points
4 points for detailed solution (draw the venn diagram), 4 points for an outline of your approach (list the clues in the order that you use them and show any mathematical calculations), 2 points for final answer *please circle* (How many white vehicles?).

vehicles in East Parking Lot



18 white vehicles

(a) of 8 buses, 1 was yellow
(b) 16 other yellow, 6 were cars
(c) 16 - 6 = 10
(d) 9 cars not yellow or white
(e) 20 - 9 - 6 = 5
(f) as many white buses as non-white so 4 white
(g) 4 non-white, 1 yellow so 3 not white or yellow
(h) half of the white vehicles were neither cars nor buses so with 4 white buses and 5 white cars, there are 9 white vehicles - trucks + vans