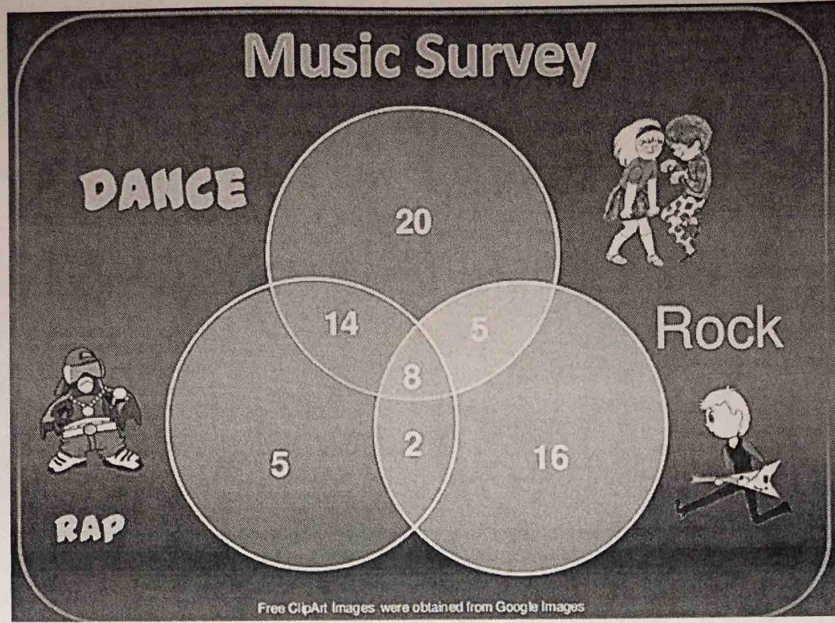


Answer the questions using the Venn diagram.

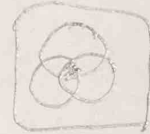


1. How many students took the music survey?

add all the #'s 70

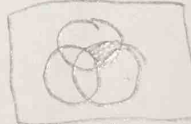
2. How many students like rock and dance and rap?

8



3. How many students like dance and rock but not rap?

5



4. What is the probability of randomly choosing a student who likes dance but not rock nor rap?

20/70



5. What is the probability of randomly choosing a student who like rock given that they like rap?

Only out of these who like rap

10/29



6. If 50 more students took the music survey, how many students would you expect to say they like all three types of music?

$$P(\text{all 3}) = \frac{8}{70}, \quad 50 \left(\frac{8}{70} \right) = 5.7 \text{ or about } 6 \text{ students}$$

A Class of 40 students completed a survey on what pets they like.
The choices were: Cats, Dogs, and Birds.

Everyone liked at least one pet.

10 students liked Cats and Birds but not dogs

6 students liked Cats and Dogs but not birds

2 students liked Dogs and Birds but not Cats

2 students liked all three pets

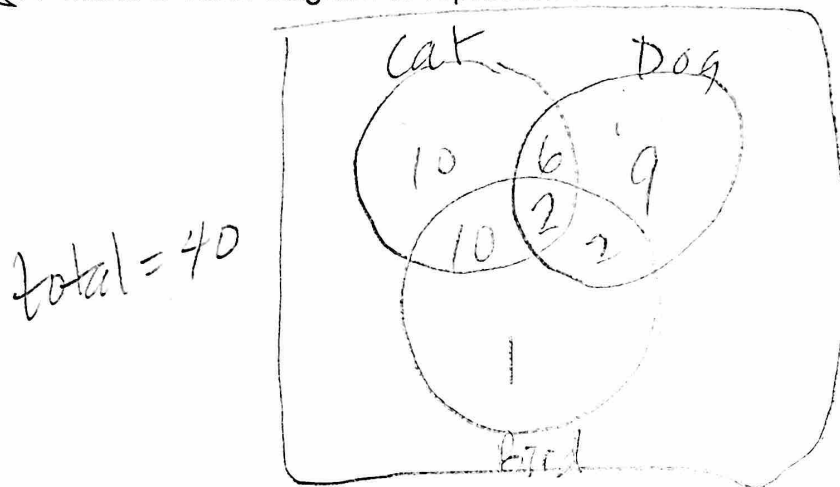
10 students liked Cats only

9 students liked Dogs only

1 student liked Birds only



☺☀☾ 7. Make a Venn diagram to represent the situation.



☺☀☀ 8. How many students like cats?

$$10 + 10 + 2 + 6 = 28$$

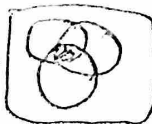
☀☾ 9. How many students like birds and dogs but not cats?

2



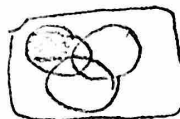
☀☾ 10. How many students like all three animals?

2



☀☾ 11. How many students like cats only?

10



☾ 12. What is the probability of randomly choosing a students who likes dogs and cats but not birds?

$$6/40$$



☾ 13. What's the probability that a student like dogs given that they like cats?

$$8/28 \leftarrow \text{cat total}$$



☾ 14. If there were twice as many students who took the survey, how many would you expect to say they don't like cats?

$$P(\text{not cat}) = 12/40, \text{ so } 80 \left(\frac{12}{40} \right) = 24$$