

3A.2 Learning Opportunity



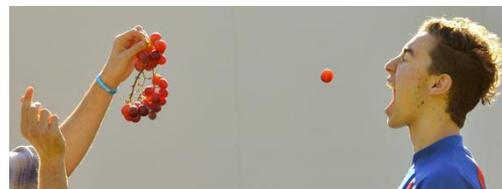
Name: _____

Problem Solving using Venn Diagrams

- 1) Model this information using a Venn diagram:
Of 100 people, 92 have cell phones, 22 have laptop computers, 19 have both, and 5 have neither.
- 2) In a neighborhood of 124 homes, 32 have swimming pools and garages, 63 have garages only, and 14 have neither. Use a Venn diagram to find how many homes have a swimming pool only.

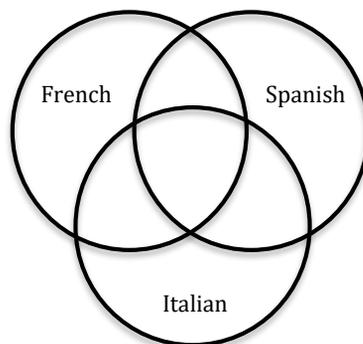


- 3) The World Records club has 30 members. Fifteen are trying to break the world record for most spoons balanced on a face. Of those, 5 are also trying to break the record for most grapes caught in a mouth in 3 minutes. There are 9 members trying only to break the grape catching record. How many members are trying to break neither of these records?



- 4) **SAT Test Question**
In the figure below, of the 40 foreign exchange students attending an International School, 20 speak French, 23 speak Spanish, and 22 speak Italian. Nine students speak French and Spanish, but not Italian. Six students speak French and Italian, but not Spanish. Ten students speak Spanish and Italian, but not French. If only 4 of the students speak all three languages, how many exchange students do not speak any of these languages?

- A) 4
- B) 6
- C) 8
- D) 10
- E) 12



5)

Movie Munchies

Customers can choose from popcorn, candy, or nachos as a snack at the movie theater.

- Two customers ordered all 3 snacks.
- Eight customers placed an order for just candy and nachos.
- 15 customers in all had nachos.
- Three customers had just candy and popcorn.
- A total of 20 people had candy.
- The same number of people that had only candy had only popcorn.
- No one ordered just popcorn and nachos.

Create a Venn diagram to represent the information given. Then, use your Venn diagram to determine how many people ordered just nachos.



- 6) **Challenge:** In a survey of 8th graders at CSN, it was found that 33 students like volleyball, 34 like softball, 39 like basketball, 20 like volleyball and softball, 10 like volleyball and basketball, 8 like softball and basketball, 3 like all three sports, and 12 like none of these sports. How many students are in the 8th grade at CSN?