IG○
Investigating Geometry Online

Homework 2-2 Logic

Use each Venn diagram to write an if-then statement

1.

Athletes

Runners

2.

Real Numbers

Integers

3.

Beverages

Juice
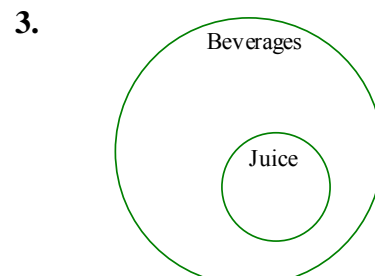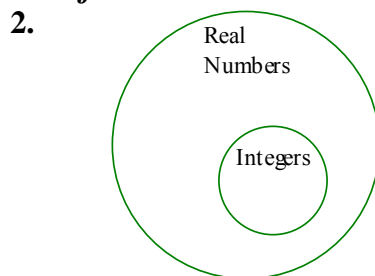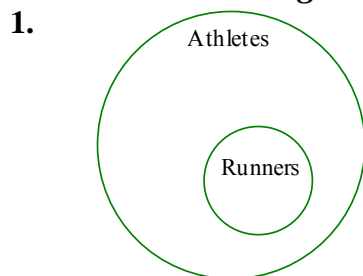
1. _____

_____

_____

2. _____

_____

_____

3. _____

_____

_____

Use each statement to draw a Venn diagram.

1. If you are a doctor, then you are a college graduate.

2. All students like snow.

3. Some students are athletes.

1.

2.

3.

Create a Venn diagram in order to solve the following problem.

7. At Walnut Ridge High School 34 students take biology, 24 students take French, and 37 students take geometry. Twelve students take both geometry and biology, 14 students take geometry and French, and 16 students take French and biology. Ten students take all three. How many students take geometry but not French or biology?

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Use the Law of Detachment or the Law of Syllogism to find a valid conclusion. If no valid conclusion exists write "no valid conclucion".

8. If it is raining, then it is cloudy.
If it is raining, then the roof leaks.

_____.

9. If our team wins tonight, then our team will be in the championship.
If our team is in the championship, then our team will travel to Florida.

_____.

10. If you give a dog a treat, then the dog is happy.
Lucas is a happy dog.

_____.

11. If two angles are vertical, then their measures are equal.
If two angles have equal measures, then they are congruent.

_____.

Use the law of syllogism to solve the following.

12. If $\sim y \rightarrow \sim x$, $\sim r \rightarrow x$, $m \rightarrow \sim y$, then $\sim r \rightarrow$ _____ .

13. If $\sim v \rightarrow k$, $\sim e \rightarrow \sim a$, $k \rightarrow a$, $\sim g \rightarrow \sim v$, then $\sim e \rightarrow$ _____ .

14. If $c \rightarrow b$, $t \rightarrow r$, $\sim c \rightarrow t$, then $\sim r \rightarrow$ _____ .

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