

Worksheet 4: Laws of Logic

Use the Law of Detachment to draw a conclusion.

1. If a student gets an A on a final exam, then the student will pass the course.
The student gets an A on the final exam.
2. If a student wants to go to college, then the student must study hard.
Rashid wants to go to the University of North Carolina.
3. If two lines intersect, then they intersect at exactly at one point.
Two lines intersect.
4. If there is lightning, then it is not safe to be out in the open.
Marla sees lightning from the soccer field.
5. If Galileo High School wins the championship, then the school will celebrate.
Galileo High School wins the championship.
6. If x has a value of 4, then $2x$ has a value of 8.
The value of x is 4.

Use the Law of Syllogism to draw a conclusion.

7. If an animal is a red wolf, then its scientific name is *Canis rufus*.
If an animal is named *Canis rufus*, then it is endangered.
8. If two planes intersect, then they intersect in a line.
If two planes are not parallel, then they intersect.
9. If you read a good book, then you enjoy yourself.
If you enjoy yourself, then your time is well spent.
10. If you are studying botany, then you are studying biology.
If you are studying biology, then you are studying a science.
11. If the sun is shining, then it is a beautiful day.
If it is a beautiful day, then we will go out.
12. If the stereo is on, then the volume is loud.
If the volume is loud, then the neighbors will complain.